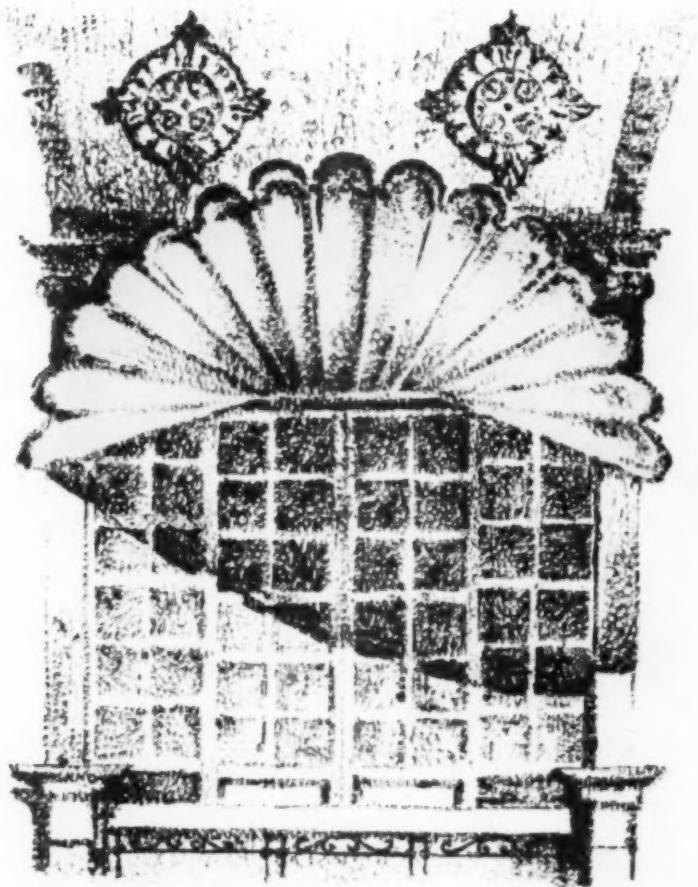




October 1960

Journal

OF THE AMERICAN INSTITUTE OF ARCHITECTS



Philippine Architecture • The Planner and His Critics • The Master Builders

The Painter and Architecture • Lighting Research • School Plant Studies (BT 1-42)



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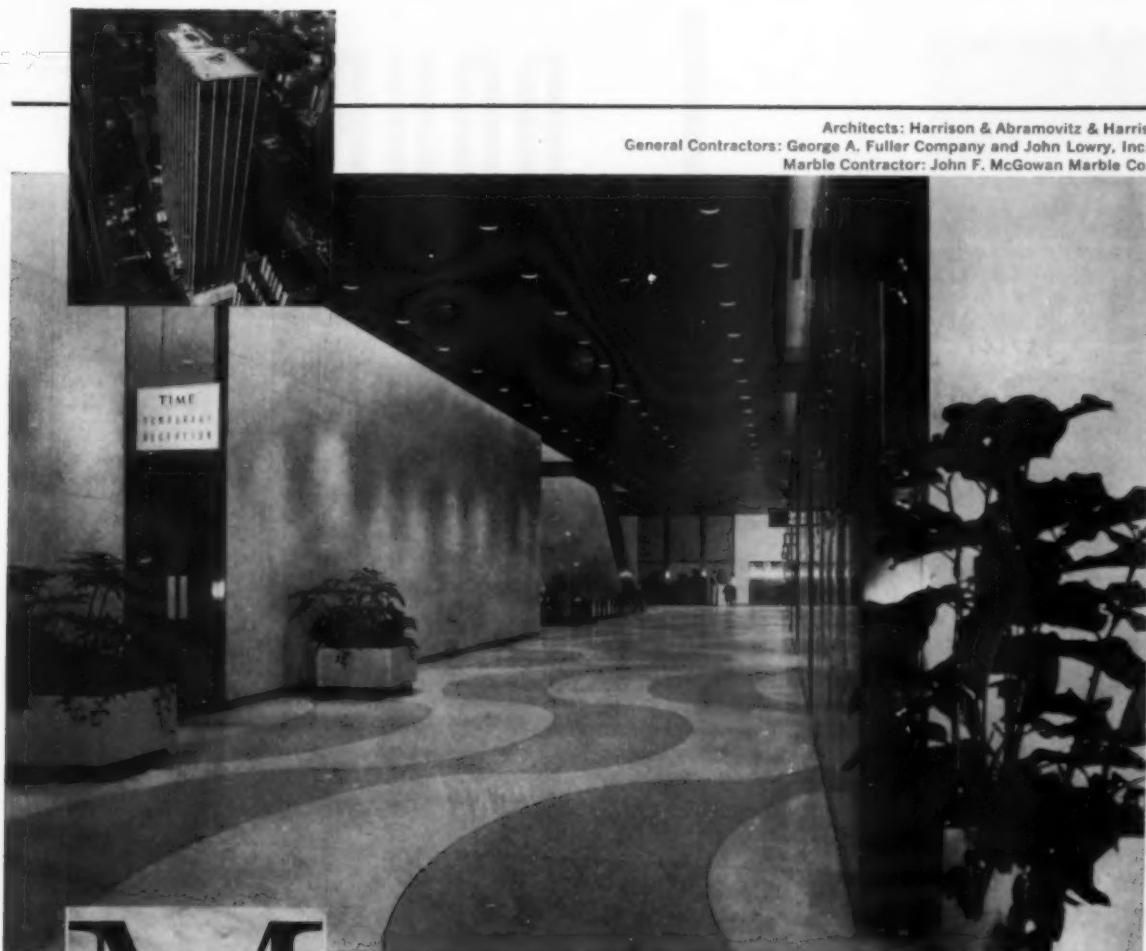
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Ultimate economy of terrazzo can save enough to pay entire construction cost of a school building

*Initial cost only 1 to 4%
of total cost of floor finishes*

A 1959 study¹ shows that the ultimate cost of Terrazzo is \$20 less per square foot than asphalt tile, or *more than enough to pay for the entire school construction cost.*

Lower maintenance costs are responsible. The initial cost of composition tile and Terrazzo floor finishes represents from 1 to 4% of ultimate cost.

Over an anticipated life of 50 years, a reduction of 5 to 10 cents in maintenance costs per square foot per year *will refund the entire cost of a floor finish.* Vinyl tile, second to Terrazzo in maintenance economy, costs 21¢ more per square foot per school year (35 weeks). This last figure is substantiated in a survey² which compares three floor finishes in a number of schools. Terrazzo's average weekly maintenance cost per square foot was \$.025; asphalt tile's—\$.04; vinyl tile's—\$.031.

Maintenance cost is one of six factors considered in the complete study. The others: (1) value of money (2) price increases (3) initial cost (4) replacement (5) speed of construction. These costs and their incidence over an anticipated life of 50 years were determined and converted to present value³ for ready comparison. The study is summarized in the chart shown below.

PRESENT VALUE OF ULTIMATE COSTS

	TERRAZZO	ASPHALT TILE	VINYL TILE
Initial cost	\$ 1.45	\$.50	\$.75
Maintenance cost	35.30	56.48	43.77
Replacement costs	.05	.08	.14
Less speed erection credit	0.00	.20	.20
Total	\$36.80	\$56.86	\$44.46
Relative ultimate cost	100	154	121

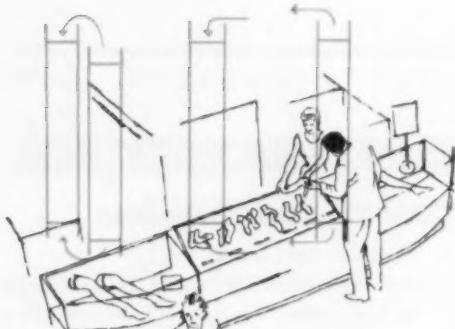
For a free copy of the complete study of ultimate cost write: The National Terrazzo and Mosaic Association, 2000 K Street, N.W., Washington 5, D.C.

1. The Ultimate Cost Of Three Floor Finishes In Tax Exempt School Buildings. Clayford T. Grimm, P. E., Special Consultant, 1959.

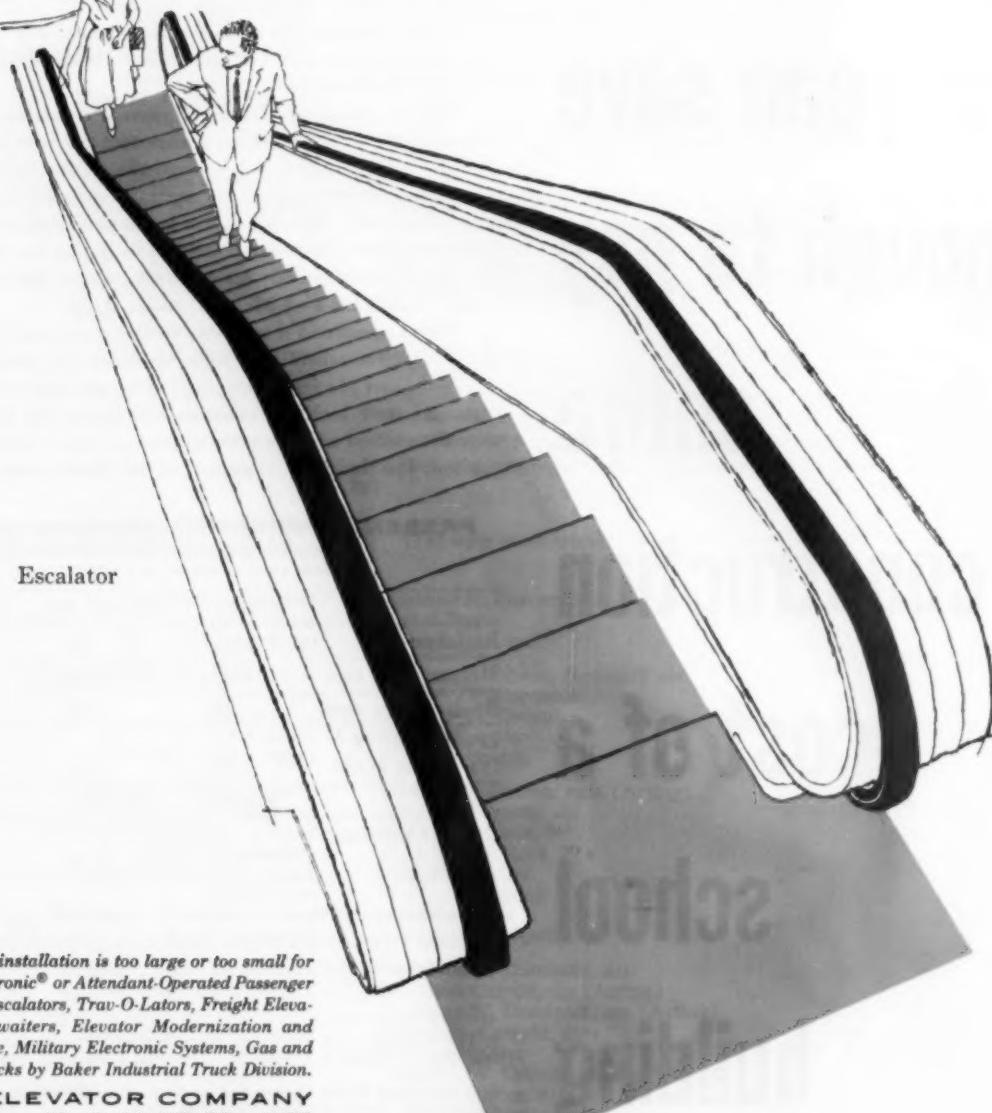
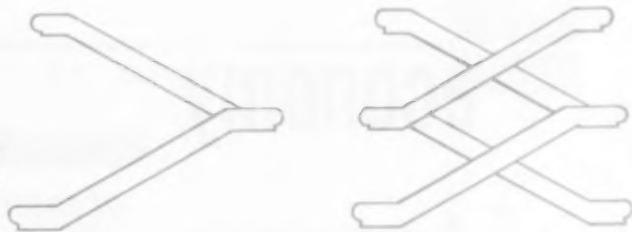
2. A survey by Walter Gerson & Associates, Inc., Marketing research and management consultant firm, December, 1959.

3. Present value: means of expressing future payments in terms of today's dollar.

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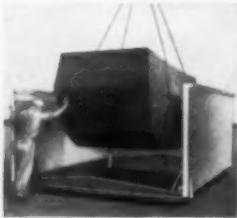
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1. Excellent surface resistance to dilute acids, solvents, radioactive compounds, heat.

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2. Ultra-smooth surface assures easy maintenance.

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limit is 200 lbs. per sq. in. So heavy loads resting on the floor are unlikely to mark, scratch, or indent Custom Corlon Tile. More severe than static loads are great weights wheeled or slid about; even here Custom Corlon is tougher than most resilient floors—and as tough as any. Finally, it is very comfortable underfoot—a feature greatly appreciated by people who spend long hours on their feet.

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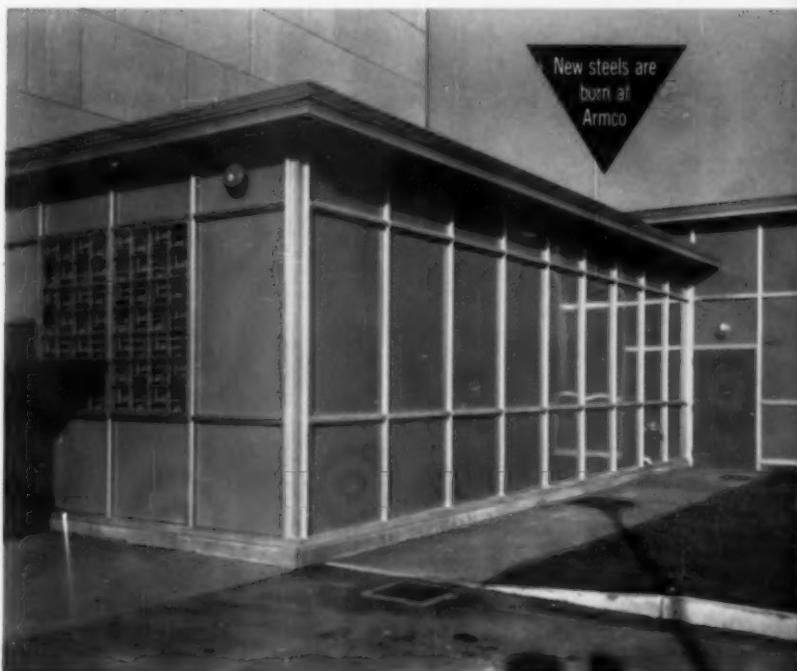
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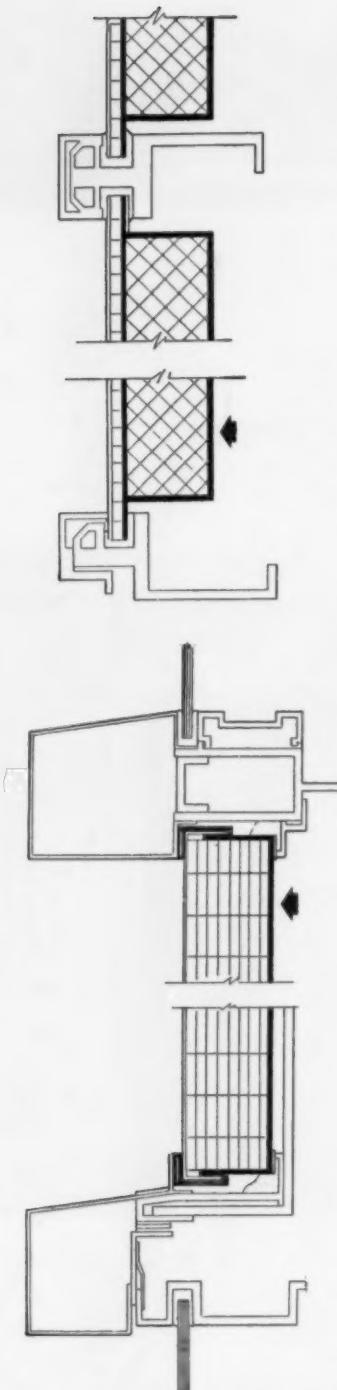
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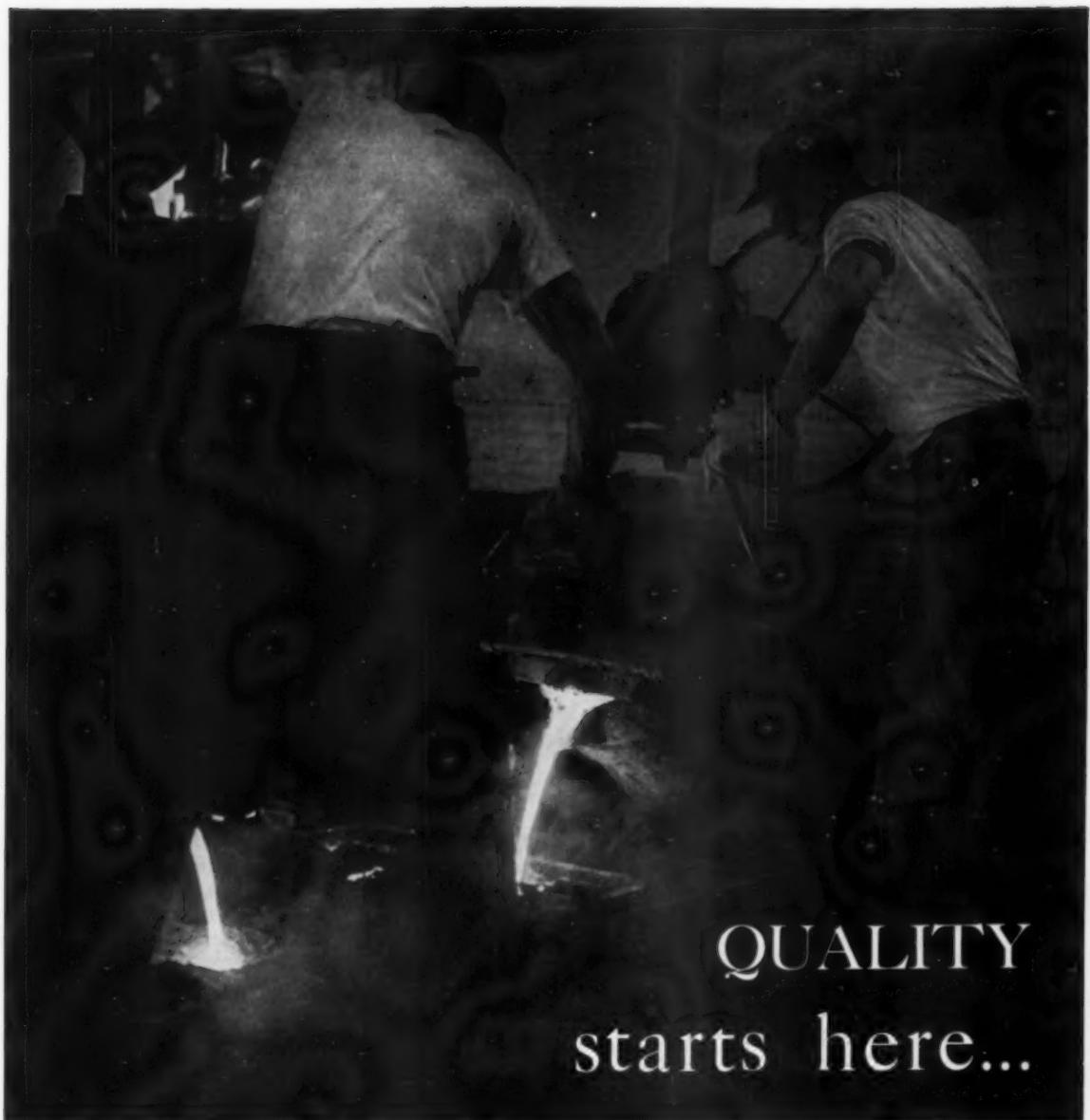
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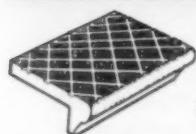
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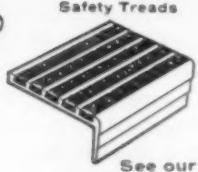


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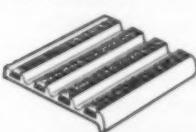
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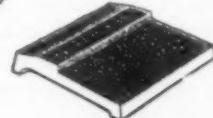
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NEWS

Convention Fever Begins

Even though April 25, 1961 is some six months away, the symptoms of AIA convention fever are making themselves felt. Next year's host city, Philadelphia, and the Philadelphia Chapter, have already set plans that sound like a Philadelphian's social calendar.

Included in the week's activities will be a command performance of the Philadelphia Orchestra, a midnight buffet at the Bellevue-Stratford Hotel, vespers in colonial St Peter's Church, cocktails at the Franklin Institute, theatre at the Playhouse-in-the-Park and on and on, not forgetting a whole array of specialized architectural tours.

Although the convention officially begins on April 25, many of the events are scheduled to begin on Sunday, April 23 which will be set aside as a day for reflection and consecration in the hallowed environs of famous Independence Hall.

The host chapter Steering Committee, composed of Chairman Beryl Price, Paul C. Harbeson, Harry W. Peschel, Charles E. Peterson and Herbert H. Swinburne, are reminding members that no ticket supply is endless and first-come reservations will be first-served. A postcard to the Philadelphia Chapter, AIA, 2400 Architects Building, Philadelphia 3, will bring a complete program with that all-important reservation blank.

Independence Hall and friends. 1961 Convention Steering Committee: Charles Peterson, Harry Peschel, Herbert Swinburne and Chairman Beryl Price.

Lawrence S. Williams, Inc.



12

AIA-NAHB Award of Honor

The American Institute of Architects and the National Association of Home Builders announce the second annual Award of Honor to encourage the design and construction of the best communities and homes for the American people by promoting the collaboration between architects and builders. The Award will be made to the architect-builder team which has contributed most toward realizing this goal. While the Jury is not limited in its considerations in selecting an outstanding collaborating team, the following factors obviously will be important to the jurors in their deliberations:

- 1 Community planning
- 2 The use of the site, whether it be raw land, rehabilitation or renewal
- 3 Individual house design
- 4 Architect-builder relationships
- 5 Improvement of the techniques of building
- 6 Service to the community at large, as well as active participation in the affairs of the Institute or NAHB

These and any other relevant factors may be considered in arriving at an Award, to the extent that they contribute to an outstanding overall solution.

Eligibility

Any architect-builder team which has cooperated on a project completed within the last five years will be eligible. Entries may be submitted by the builder concerned, the architect concerned, or by the local AIA or NAHB chapters or by the national associations of either AIA or NAHB.

Awards

The architect and the builder of the winning team will each receive a plaque and a certificate attesting to the Award of Honor. Presentation of the Award of Honor will be made at the convention of the National Association of Home Builders in Chicago, January 1961, and at the AIA convention in Philadelphia, April 1961.

Method of Submitting Entries

In submitting entries, the method of collaboration, its results, and its contribution to design, land

planning, to building techniques, to public interest, to architect-builder relationships or other collaborations of significance must be clearly and briefly stated.

Biographical data submitted by an architect-builder team should present clear and concise information covering the aims of architect and builder and may include sketches, news stories and any other information that will support the submission. Clear and descriptive plans and photographs of the site and the buildings inside and out, must be included in sufficient number to clearly describe the submission. Details regarding method and time of collaboration between architect and builder should be pointed out. All entries must be submitted in 8½ by 11½ binders, such as Ful-Vu Economy Binders, type CB-10.

Anonymity of submissions will not be required. The first page of the folder should include the following identification:

- Designation and location of project.
- Names and addresses of AIA Chapters and/or NAHB Chapters to which the teams may belong.
- Names and addresses of architects and builders involved.
- Names and addresses of owners, sponsors, developers, agencies, etc., which are appropriate, including civic officials or other prominent people attesting to the achievements of the architect and builder.

Closing Date

All submissions must be received at the headquarters of The American Institute of Architects postmarked not later than November 14, 1960.

Jury

The Jury will be appointed by The American Institute of Architects and the National Association of Home Builders. It will consist of three architects to be selected by AIA and three builders to be selected by NAHB. The Jury will select its own chairman after it has assembled.

Judgment will be at the AIA headquarters on or about November 17 and 18, 1960.

Publication

The American Institute of Architects and the National Association of Home Builders will give the widest possible publicity to the Award winner, since this Award is not only an excellent means to further close collaboration between AIA and NAHB, but it is also of public interest and good public relations.

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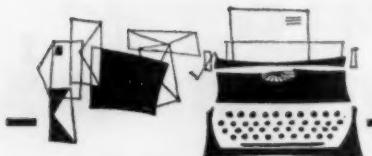
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LETTERS

On Criticism

EDITOR, *Journal of the AIA*:

Your editorial in the August *Journal* struck a responsive chord. For years when I was with *Printers' Ink*, I heard the cry, "You fellows are just a bunch of Pollyanna's. Why don't you tell about campaigns that failed instead of confining yourselves to campaigns that succeeded?"

In the first place, we weren't Pollyanna's. We were continually being hammered by the other side because we said unkind things about the phonies in advertising. (I'm afraid that in spite of all the unkind things we said nothing much happened.)

But when it came to not talking about the campaigns that failed, we had several good reasons. First, it's always a little difficult to judge a failure. That is, a complete failure.

There was one famous campaign that I knew about which was highly successful. The trouble was the product was no good. It would have been highly misleading had we jumped all over this campaign. And there were certain other campaigns which to my mind were arrant failures because they used tricks and misleading statements that set good advertising back for years. But the companies that ran them thought they were highly successful because sales went up.

But the main reason we didn't run such articles was that nobody had read them when on rare occasions we did publish them. Everybody was interested in the new ideas that had succeeded. They weren't interested in the ideas that had failed.

I realize that the analogies between the criticism of advertising and the criticism of architecture aren't always too close. But you can see why I enjoyed your editorial this month particularly.

C. B. LARRABEE
Director of Publications
American Chemical Society

Agency Architecture

EDITOR, *Journal of the AIA*:

In your Report prepared by the AIA Committee on the Profession (June, 1960) Europe is listed among those where the practice of architecture is not based on "agency."

I fear Europe is too large to be generalized from this point of view. Whereas we can see examples of "package deals" of Swedish cooperatives and plans designed in State or County offices in England and elsewhere, the majority of the practice of architecture this side of the Iron Curtain is based characteristically on the idea of "agency."

EUGENE PADANYI-GULYAS
Billings, Montana

Metric System Supported

EDITOR, *Journal of the AIA*:

Ray Leimkuehler's excellent article in the August *AIA Journal*, "When Will We Adopt the Metric System," points up faults in our systems obvious to every thinking person. The United States and its people are hampered in their dealings with the rest of the world and with each other by our archaic systems of measurement of weight, distance, volume, temperature, energy, etc.

Oddly enough the fault seems to be widely recognized and the solution generally agreed to and yet very little is being done about it. Organizations exist for the promotion of the change to the metric system. It would be an excellent thing if the AIA offered these organizations its endorsement of the program and its active cooperation. Maybe the snowball would start rolling and gaining in size. The Producers' Council could logically follow suit and still larger organizations may then become active in the campaign. It doesn't take much imagination to realize that bringing about this change is a patriotic duty.

DAVE P. CLARK
Columbia, Missouri

Far Away Places

EDITOR, *Journal of the AIA*:

Your July issue carries the first part of an article entitled "The Fine Art of Architectural Deception" by Harley J. McKee, AIA, which is reprinted from *The Straight Edge*. We are delighted with the humor and would ask permission to republish in our journal *Architecture and Design*, which is the official publication of the Institute of Southern Rhodesian and Northern Rhodesian Architects.

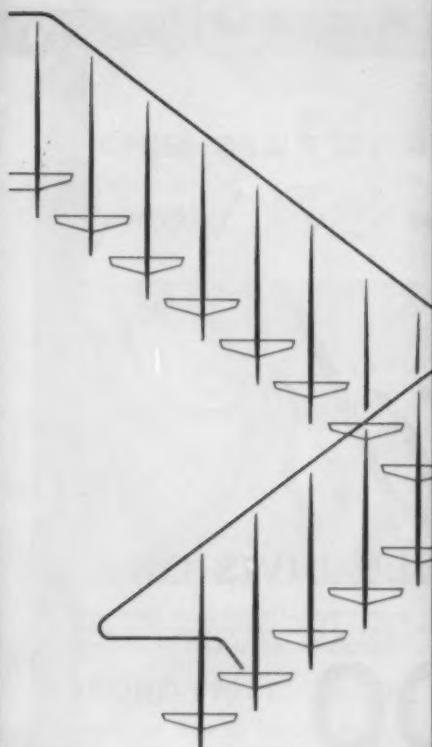
F. G. L. SEARS, EDITOR
Architecture and Design

Editorial Weight

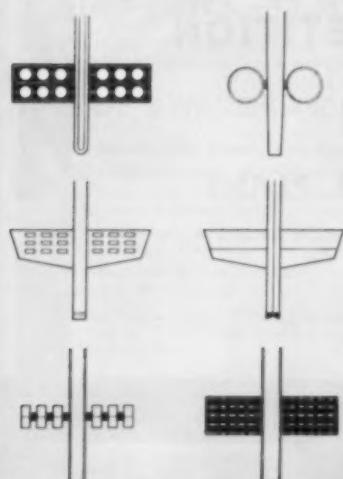
EDITOR, *Journal of the AIA*:

I look forward to receiving the first copy of the *Journal*. I only hope it is not quite so weighty physically as the other American architectural publications we receive. I have no doubt it is more weighty in the other meaning of the word.

COLIN BOYNE
Executive Editor
The Architect's Journal
London, England



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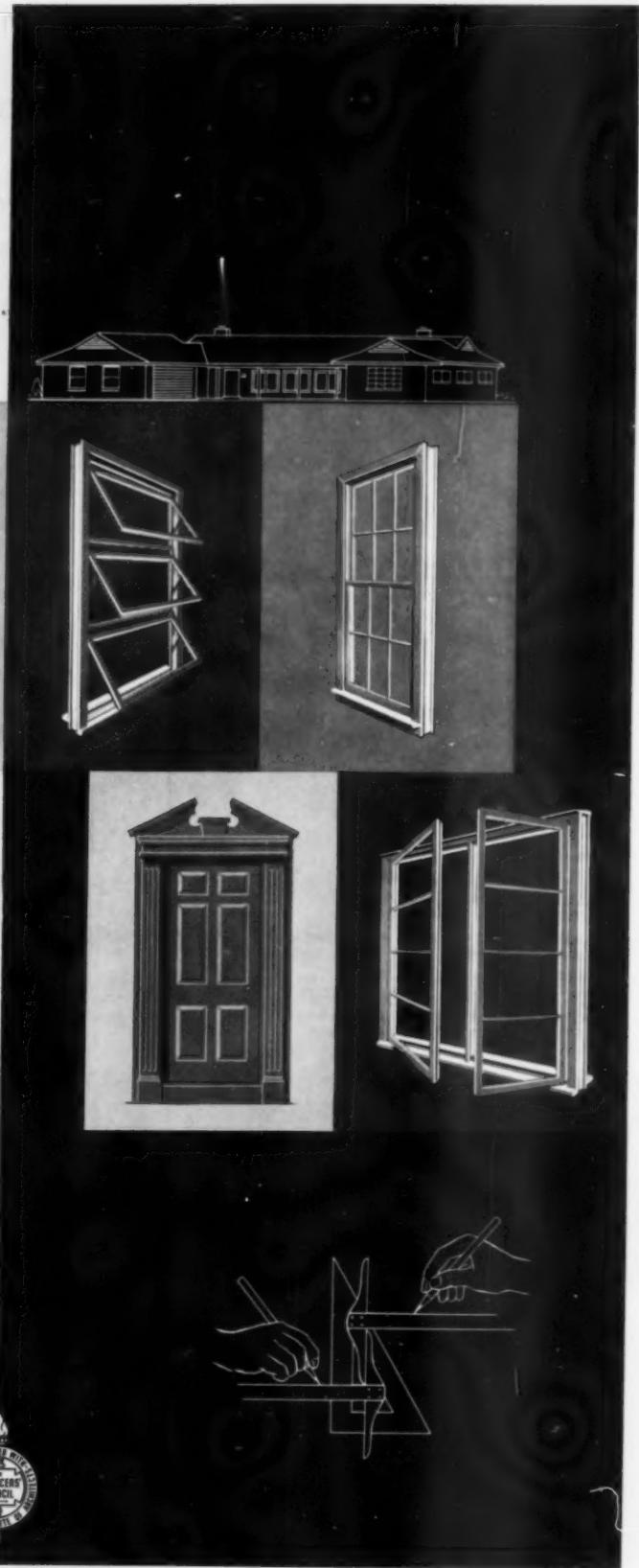
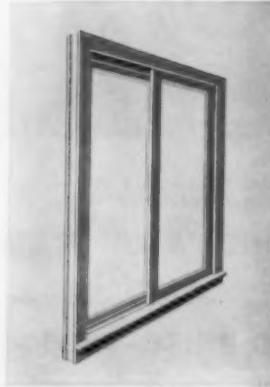


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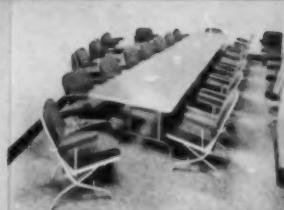
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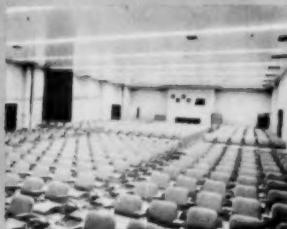
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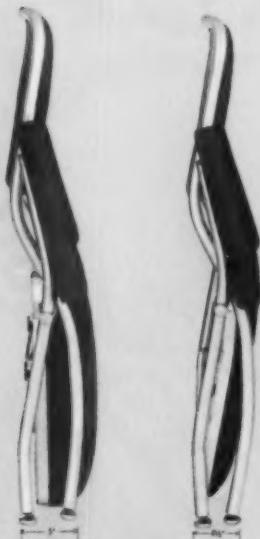
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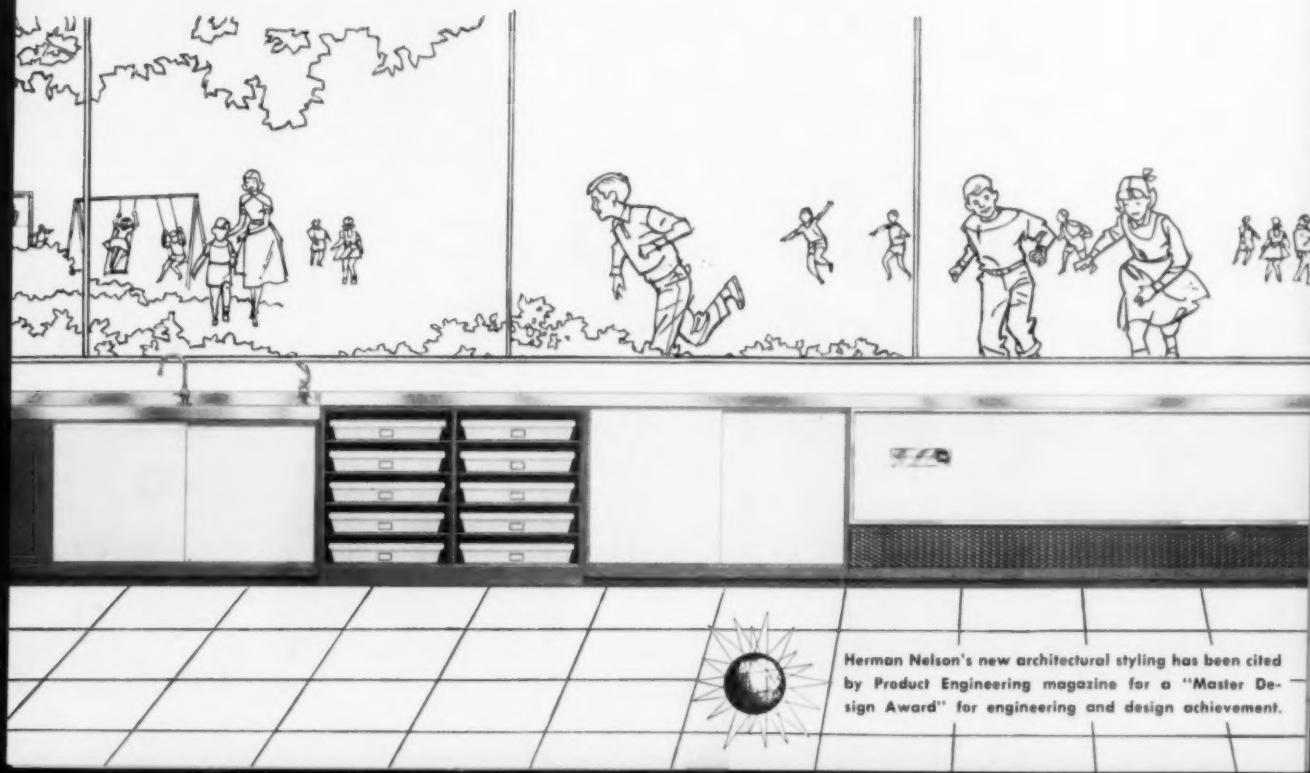
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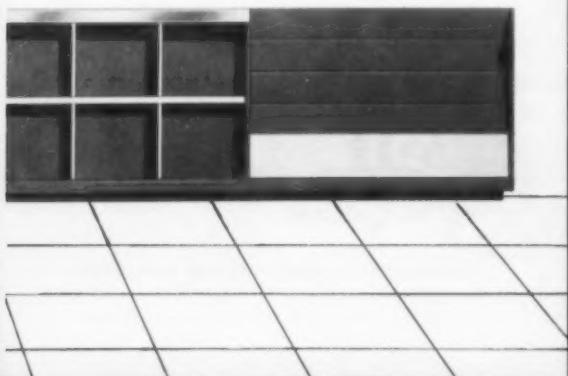
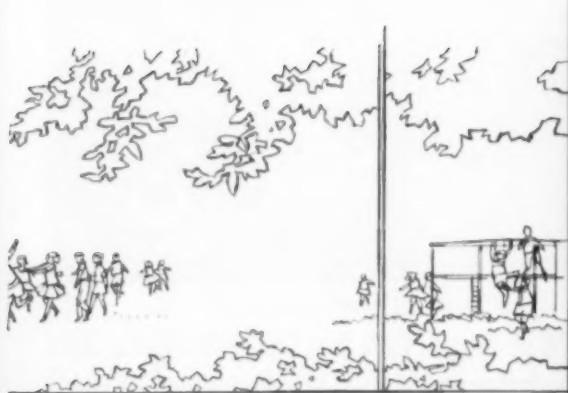
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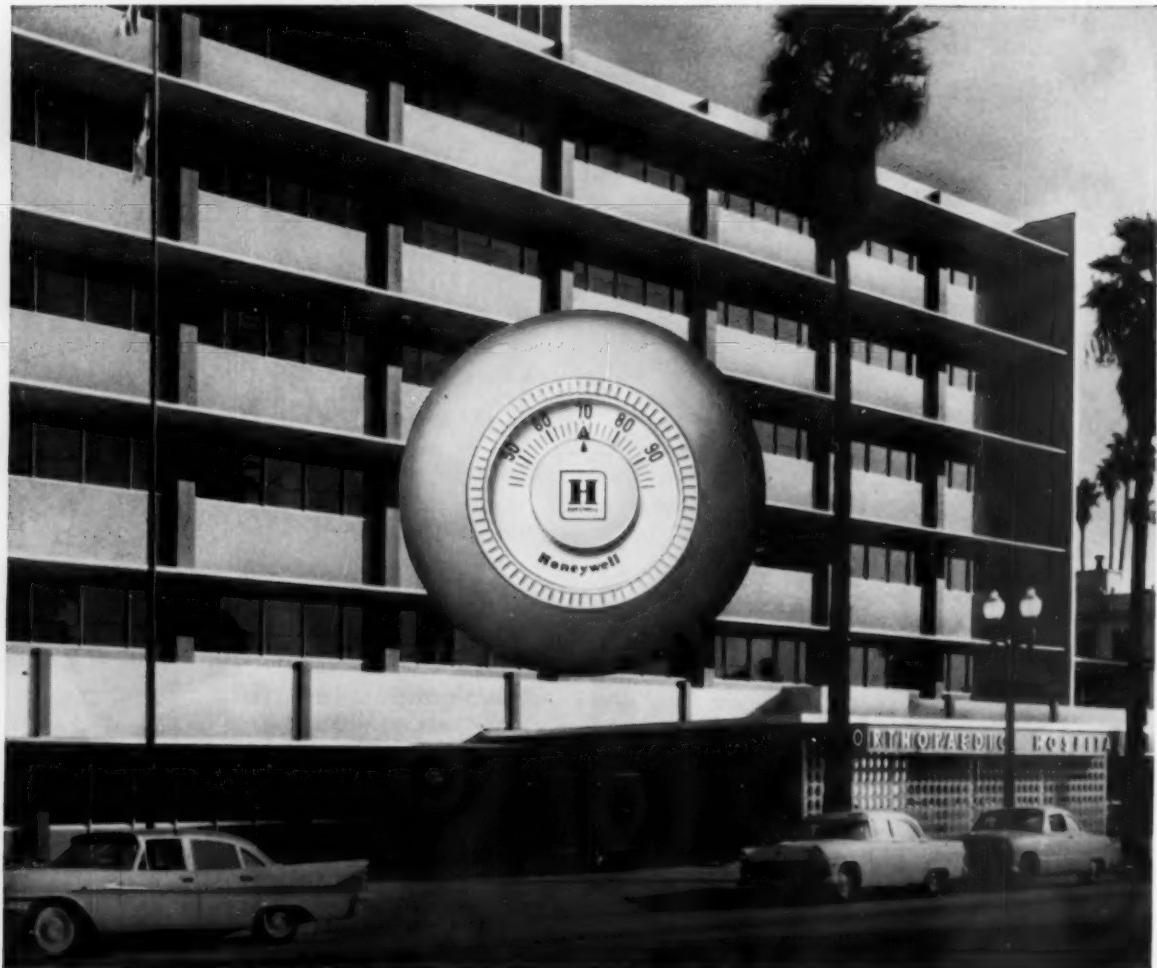
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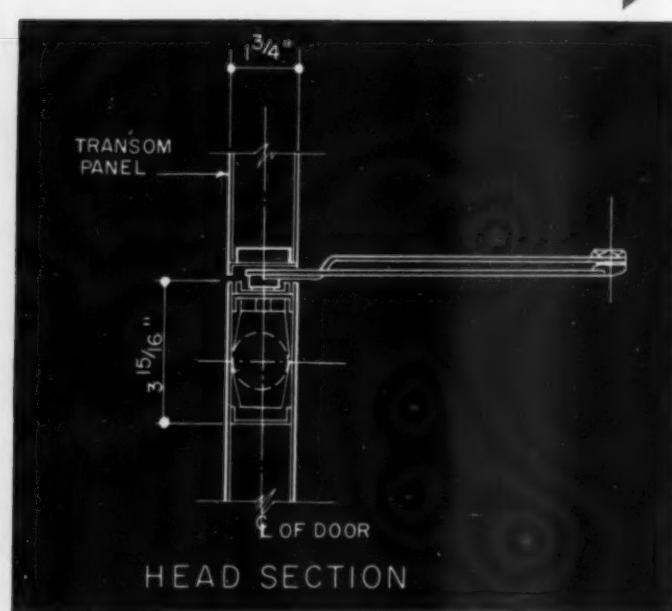
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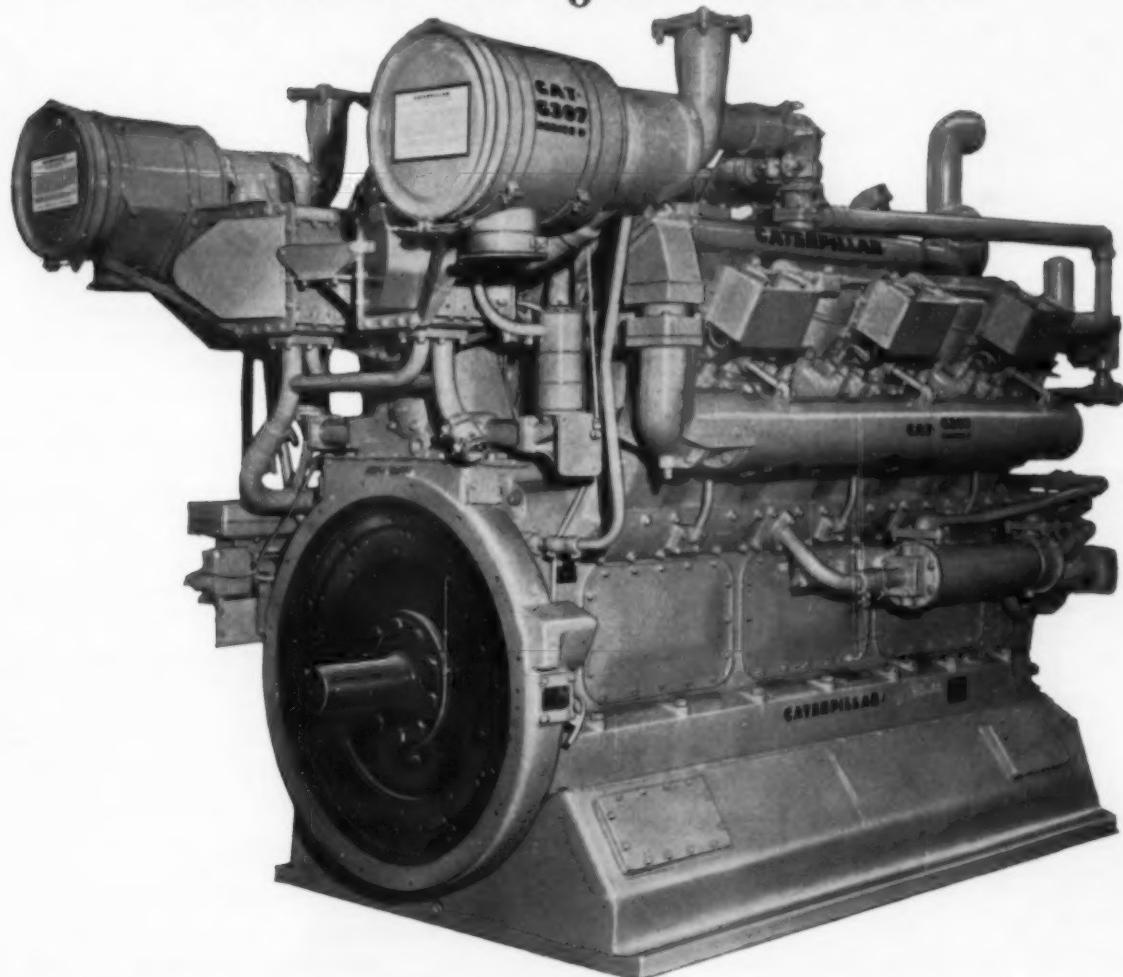
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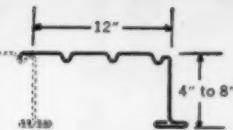
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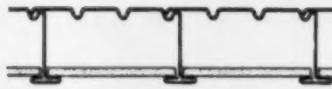


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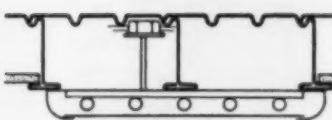
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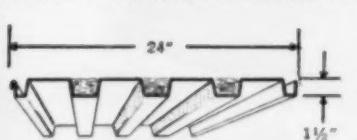
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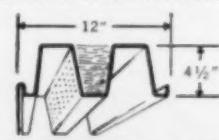


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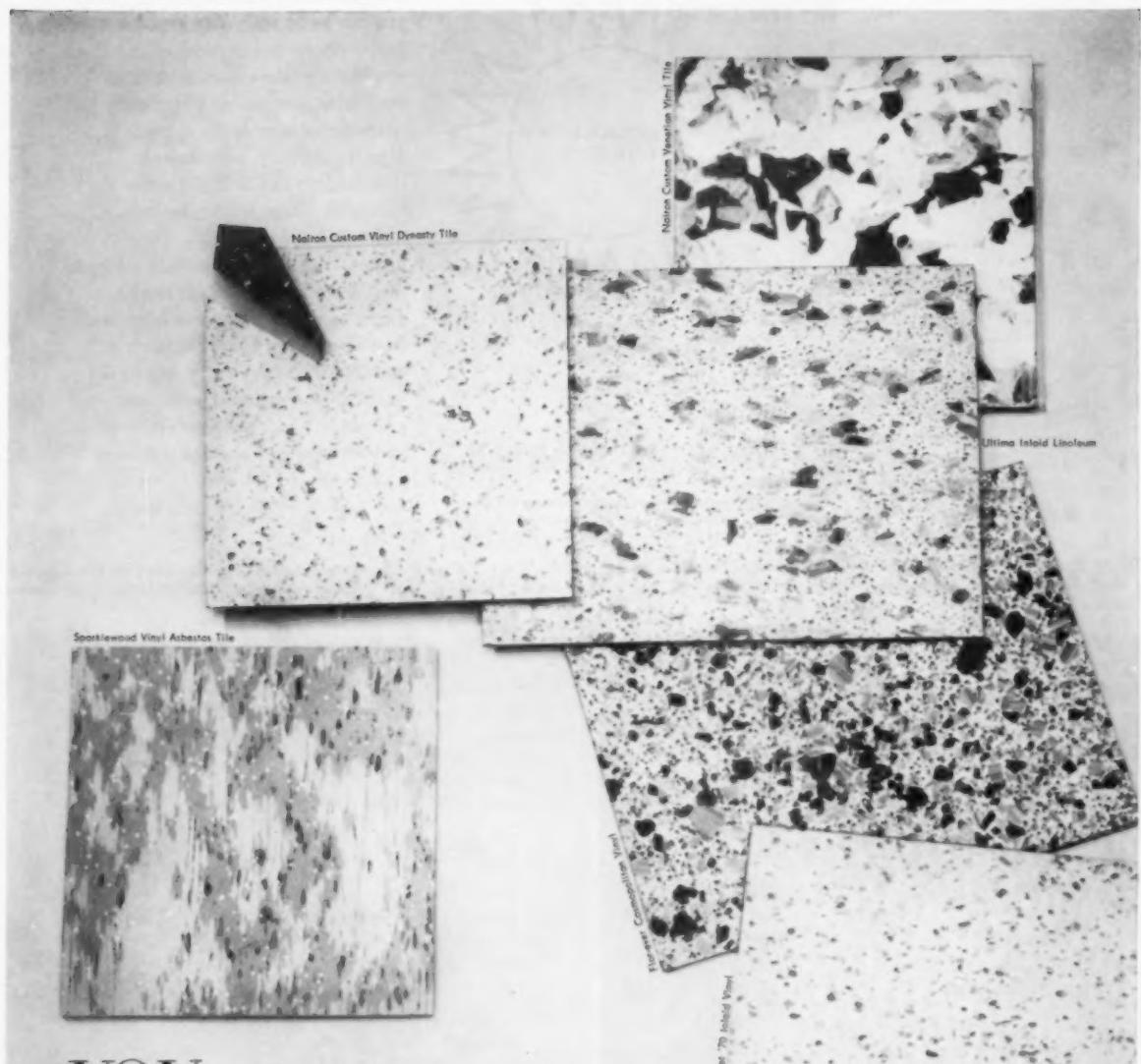


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Left: NATIONAL BANK OF DETROIT

ARCHITECTS & ENGINEERS: Albert Kahn

GENERAL CONTRACTORS: Bryant and Detwiler

STONE SETTING CONTRACTORS: Winfrey Brothers

INTERIOR MARBLE: Detroit Marble Company

MATERIAL: White Georgia Marble

**Lower left: The Fifth Avenue Office of
MANUFACTURERS TRUST COMPANY,
New York, N.Y.**

ARCHITECT: Skidmore, Owings & Merrill

GENERAL CONTRACTOR: George A. Fuller Company

COLUMN FACINGS: Meadow White Statuary Marble

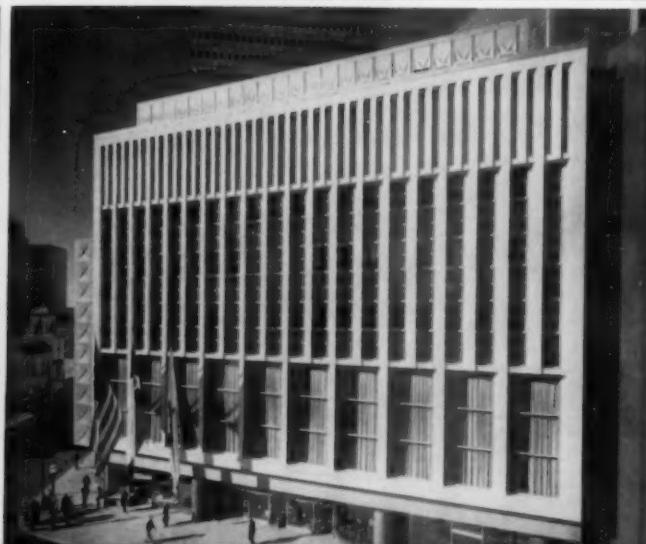
**Below: REPUBLIC NATIONAL BANK BUILDING —
Dallas, Texas**

ARCHITECT: Harrison & Abramowitz, New York, N.Y.

ASSOCIATE ARCHITECT: Gill & Harrell & Assocs., Dallas, Texas

GENERAL CONTRACTOR: J. W. Bateson, Dallas, Texas

MATERIAL: White Cherokee — Sand Rubbed



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The Planner and his Critics

BY GRADY CLAY

This is the substance of an address delivered to the American Society of Planning Officials at Miami Beach last May. Although not directed to the architectural profession, it deals with problems we face every day—and in a very stimulating manner.

► "Facilius est destruere quam construere."

Freely translated into a familiar English proverb, this ancient Latin quotation becomes: "It is easier to pull down than to build up."

"Critics in general are venomous serpents who delight in hissing," said the English writer W. B. Daniel.

"Mercy on us, that God should give his favorite children, men, mouths to speak with, to discourse rationally, to promise smoothly, to flatter agreeably, to encourage warmly, to counsel wisely, to sing with, to drink with, and to kiss with, and that they should turn them into mouths of adders, bears, wolves, hyenas, and whistle like tempests, and emit breath through them like distillations of aspic poison, to asperse and vilify the innocent labors of their fellow creatures who are desirous to please them." (Charles Lamb)

Said Oliver Wendell Holmes, across the breakfast table: "Nature, when she invented, manufactured and patented her authors, contrived to make critics out of the chips that were left."

Said Alexander Pope: "Critics, as they are birds of prey, have ever a natural inclination to cærion."

And Samuel Johnson:

"A fly, sir, may sting a stately horse and make him wince; but one is but an insect, and the other is a horse, still."

Or Samuel Taylor Coleridge:

"All enmity, all envy, they disclaim

"Disinterested thieves of our good name;

"Cold, sober, murderers of their neighbor's fame."

And, finally, Robert Burns pursuing the same theme:

"Critics! Appalled I venture on the name,

"Those cut-throat bandits in the paths of fame."

I would like to speak for all the "cut-throat bandits," those "cold, sober murderers," those

Grady Clay, who has often appeared in the Journal, is Real Estate and Building Editor of the Louisville Courier-Journal, Associate Editor of Landscape Architecture Quarterly, and visiting lecturer in Urban Design at the University of Kentucky, 1960

insects, birds of prey, and venomous serpents whose mission in life, *so it is alleged*, is to blemish, tarnish, besmirch and bespatter the good name of planners and their allies—to “villify the innocent labors of their fellow creatures who are desirous to please them.”

I trust that when I finish, I will have persuaded you that the role of the critic, however unpopular, is a useful one; that there is a much wider interpretation of the word “criticism” than may at first occur to you; and that it is the responsibility of your profession and mine to explore this field together.

The role of the critic is indeed unpopular. It does not easily fit with our cherished faith in the Man of Action: “He who can, *does*; he who can’t *teaches*; he who can’t teach, *criticizes*.”

And yet, we may be forgetting the usefulness of criticism which reminds us where we are going (or where we said we intend to go). If critics did this and no more, they would serve a useful purpose in our society. For our national hero seems to be the fellow who jumps on his horse and gallops off in all directions. He may not know where he’s going, but man, can he run!

I propose briefly, therefore, to suggest some of the functions of criticism in our society; and to suggest that as a vital form of public discussion, it is essential to the planner, the writer, and to the public.

There is nothing revolutionary in saying that criticism is, and should be, part of the planning process. The planner, by his very nature, is a kind of critic.

This is ancient stuff. I am sure that ever since the first cave man tried to pile two stones upon a third there has always been somebody to suggest that one stone balances better upon two or three, instead of the other way around. As surely as the citizens of Babel raised a great tower toward the sun, there were others to suggest that it was built

in the wrong place, of materials unfitted for their function; that it should have been built sooner, later, or not at all; certainly by somebody else (of a different political party); and that it was prompted by the wrong motives to begin with. And who are we to say the critics were wrong?

Look about us today. The Tower of Babel, the great pyramids of Egypt, the seven wonders of the ancient world, are nothing compared with the fantastic stuff we are building.

If ever in our history we should be concerned with *what* we are building, not only how it works but how it looks, it is now.

Today, we are building a great urban nation. In twenty years, we shall have a population of some 250,000,000 people. As my plane took off from Louisville, I looked down upon a beautiful and pleasing landscape: Gently rolling, fertile, with gleaming streams through fresh green pastures, and field after field of ripening grain or freshly-cultivated earth. In ten years, 14,000 of those acres around my own city will be covered by split-levels, “Cape Cod Ranchers” and endless variations of that ubiquitous architectural style known as Shrunken Colonial. Another 5,000 acres or so will be gone—covered by ranch houses and burger bungalows, by drive-ins and cook-outs, by deep wells and high buildings.

My city and yours has enough capital expansion to keep us busy pouring concrete for another generation: Highways, ports and schools; factories that whistle, sewer systems that gurgle; new towns in the countryside and new countryside brought into town. We have lined the public trough with concrete.

What evidence have we that all this is a “planned” environment?

I would suggest that to the average American citizen today, three things represent the end-result of city planning: The express highway, the modern suburb and the new redevelopment project.

Each is a product of mass-production technique. Two of the three would be impossible without condemnation. Each of the three is a highly visible result of somebody’s formally-adopted plan.

First, a brief and unfriendly look at each one:

The Federal Interstate Highway system is, in the words of the Brookings Institution, “The greatest single combination of economic activities in man’s history.” It is the greatest device ever lobbied through Congress for distributing unearned increment of land-values. It is the most efficient method we have ever devised for keeping millions of people in a perpetual state of *animated suspension*. It seems to be devoted to proving an already-

established fact: That the shortest distance between two points is a straight line. In far too many communities, the public is beginning to decide, "If this is planning, the hell with it."

Next, the "planned suburb," a contradiction in terms. It is usually planned for maximum return on the contractor's investment.

A suburban area, as somebody has said, is one in which we substitute traffic jam for forest preserve. It is farmland held by speculators long enough to double their money; the place where city folks seek to pay off mortgages in genteel company; where five acres are made to do the work of one; where one husband does the work of five servants; where the straight furrow has been replaced by the wrinkled brow; field larks by thunderbirds; where man and nature can live in harmony only so long as the power mower keeps running.

Urban redevelopment is the latest massive example of "planning." At last count, some 1,000-plus cities now have a "workable program"; about fifty have completed a major urban renewal project. Some of the earliest and biggest have given many of us the shudders: Continuous barracks up-ended for one social-economic class; mass evictions, the disappearance of community life and the substitution of mass institutional life. If you travel across the United States, you can glimpse enough of these giant aggregations to wonder: Is this our Brave New World?

If this "planned environment" leaves something to be desired, it is my purpose to suggest that your profession and mine may be equally at fault, equally responsible for the widespread uglification that goes under the name of Progress; equally responsible for the fact that so little of our new urban environment is pleasing to the eye; or satisfying to humanity's need to live where they can truthfully say, "I like it here."

And if all this leaves so much to be desired, I would suggest further that a basic reason lies in our obsession—yours and mine—with the *process* of planning, rather than with its end results, with its *products*.

The assigned subject of this panel is "The value of public discussion of project appearance, for public acceptance and for better planning design. Educating the public to demand good visual results."

What is my profession (speaking as a newspaperman on a large metropolitan newspaper) doing about this? I would say, first, that the American press is doing a superb job of telling the public what goes on. We lavish columns of news-

print on the negotiations for a redevelopment contract. We agonize for weeks, along with our readers, over questions of how many families of what color and political faith, will be displaced by the next great "project" carved into their old neighborhood.

But we seldom, if ever, take the time to go back after it's all done, and take a long, hard look at the results. We are great ones for saying "What's done is done, and there's no use worrying about it." This attitude also forestalls all reflection, any consideration that it might have been done differently or better. The critical eye in America is extremely well trained, sharpened, and put to good use in every other field but that of the physical-architectural environment. What large newspapers think of existing without a movie reviewer, without a book-review page; without periodic reviews of television, music, the worlds of painting, sculpture, the theater and opera?

One of my first adventures into technical journalism was as a college student. My father was an ophthalmologist in Atlanta—an eye surgeon. In the process of being a doctor's son, and occasionally helping him draft or re-draft technical papers for medical meetings, I was impressed by a very simple thing: Everything doctors do is subject to critical review. A hospital committee often watches their operations. A review committee checks back over their records to discover, among other things, if doctors are performing unnecessary operations.

In other professions as well, *performance* is what counts: The end-product. The other day Robert Frost was interviewed on the subject of a national academy of arts, similar to the French Academy. Poets, he said, have more in common with athletes than with anybody else. Nothing matters but the final performance. It's not how hard you try, how much money you spend, how much paper or energy you consume, but the final performance.

Now, what do we—we of the press and you of the planning professions and commissions—what do we do with the end-products of city plans: The interchange, skyscraper, throughway, pedestrian mall, shopping center, public housing project, the new City Hall, or those new benches which the Mayor bought last week to keep the downtown merchants happy?

Little or nothing. If your Beautification League passes a resolution about the Highway Department's latest tree-cutting spree ("old stuff" to most city editors), we print it. But do we "cover" the highway department's final product with anything like the critical awareness with which we

watch over their budgets, their hirings and firings, their contracts, and right-of-way purchases? Of course we don't.

In 1958 the humanities division of the Rockefeller Foundation held the first Seminar on Urban Design Criticism in Rye, New York, in an effort to explore this very problem. Part of what I have to say here comes from covering that meeting, and from attempting to summarize the observations of those who attended. Although the proceedings have not been formally published, I think you will be interested.

The idea for that conference grew out of the remark of an official of the Rockefeller Foundation. He was astounded to discover that a well-known renewal scheme had been published widely, without ever coming under the scrutiny of a well-trained critic. In fact, practically no critical comments of any kind were published about the scheme.

What goes on here? He and others began to wonder. What's missing in our society? Professor William Wheaton, of the University of Pennsylvania Institute of Urban Studies, rose to the bait, and offered this conclusion (which resulted in the Conference on Urban Design Criticism):

"The low state of urban design in America today reflects an inadequate understanding of the values of design in the city by the public, by officials . . . and inadequate standards and knowledge on the part of professions directly concerned with city buildings . . . In considerable degree, these popular and professional weaknesses arise because of the almost complete lack of critical writing about the design of cities in the American popular and professional press."

It has now been two years since these words were written, and there have been a few changes in press coverage and critical comment of end-products, especially in the American architectural monthly magazines.

But generally speaking, American newspapers cover the planning process and not so much its end product. In this, the press reflects the planner himself. ASPO meetings, I would say, generally turn into how-to-do-it, or how-we-did-it sessions. "The planning process" is a magic phrase, and yet it somehow reminds me of the pipe contractor who got involved in a controversy over sewage being dumped into a stream. "But what are you looking at me for?" he wanted to know. "All I did was lay the pipes: I'm not responsible for what comes out at the end."

This concern with the pipeline of planning,

rather than what comes out at the end, is one of the troubles with newspapers. We have gone along with the planners, emphasizing how these things work; what they cost; who gets the credit; (and the contract); how many families they make eligible to buy new Section 221 houses.

We concentrate on legality and longevity ("Will the streets outlast the mortgage on the house?"); on durability and feasibility; on taxability and other such virtues. But we seldom have space and you seldom have time to think about visibility, suitability, proportions, shape, color, texture, scale.

We hear a great deal of lamentation from planners about the demands of the present, and the great wave of population, sprawl, blight, etc., in the next twenty-five years.

How are we—speaking of newspapers, the architectural and planning press—prepared to handle the onslaught of public works coming at us from your drafting rooms? How are you, yourselves, preparing to criticize adequately the results of our plans?

If we follow the same old practice, you know what will happen: Take the proposed new City-County Office Building (the eternal dream of the City Efficient embodied in glass and concrete, an effort to put into physical form the most unruly political entity in America). It first gets into print when your consultant turns out a "quicky" perspective drawing to satisfy the voters who approved a Civic Center plan five years ago and want to see results. Next, another rendering gets published after the building has been redesigned because of increased building costs. (The Planning Commission has in the process been moved from the penthouse to the basement.) Finally, there's a great ground-breaking, and the city editor is forced to use another of these identical photographs of an oversized City Commissioner holding a chromium-plated shovel. And that is all. No further pictures until the building is remodeled, the architect is sued, or somebody demands the whole thing be torn down.

The same is true of non-public buildings. They get into print under the same kind of circumstances, and then again when they burn down, get into bankruptcy court, are sold, leased, or otherwise handled as pieces of merchandise.

For a half-century or longer these great hunks of physical environment hover around us, protecting, delighting or offending us, each according to its means, to each of us according to our capacity. For a half-century that new building could remain an affront to the city's skyline; it could spoil

a neighborhood, break into a handsome cornice line, overshadow a great and renowned structure (much as that insurance company building behind Independence Hall has done for a generation or longer). Such buildings might produce thousands of subconscious shudders per day; might actually dismay and dishearten thousands of neighbors (who really don't know why they go home feeling so exhausted at the end of a day).

In other words, as was suggested by Professor Ian McHarg of the University of Pennsylvania, there are many ways to assault a man other than by slashing him with a razor. We are only beginning to realize that visual assault, as well as physical assault, is an anti-social act.

I am concerned about the results of city planners' work because every newspaperman finds himself trying to explain them—or explain them away. I am concerned because one of the functions of the press is to clarify public discussion; to encourage a common understanding and language.

How should planners and the press tackle the end-product of planning—the visual scene, the townscape, the structures and spaces we must live with and pay for, financially and psychologically?

To answer this, I would like to speak of pressure points in urban design by asking these questions.

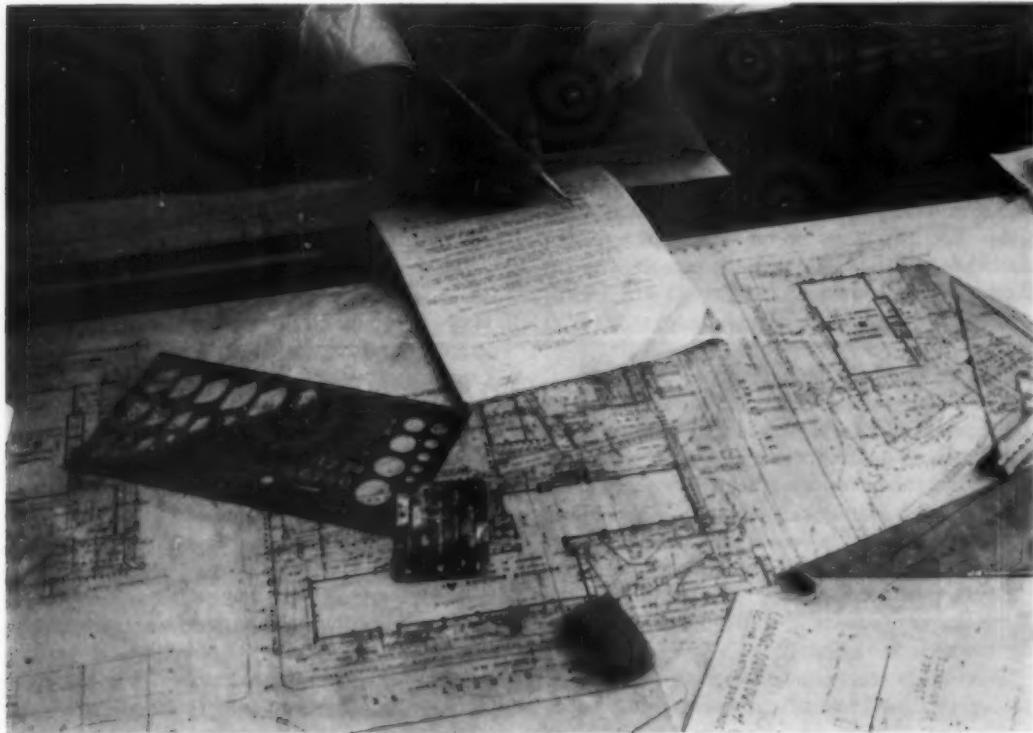
Who is assuming what?

Every building and every plan began long ago, in the mind of a man, in a sketch, a theory, in a tradition, in a belief. Therefore it is up to you, as well as the press, to *dig out the unspoken assumptions*, the root metaphors, the hidden biases on which emerging plans are based. Such as "This neighborhood will always be black, so we may as well double the density." When it gets into the planning document, this gets watered down into a phrase such as "To be made available for duplex Negro occupancy."

Who laid the first egg?

When citizens come to protest this or that plan, your stock answer appears to be: "Well, it can't be avoided, there's no other way to do it." (Among highway engineers, the answer becomes: "Well if you're so smart, why don't you find a better route?")

All over the country, citizens are learning that things they never heard about are "inevitable" be-



cause of decisions they never learned about until it's too late.

Example: This one comes from architect I. M. Pei, of Webb and Knapp, Inc of New York City: (from transcript, Rye Conference on Urban Design Criticism, 1958)

"I was asked to look into the possibility of doing some houses in Lincoln Square. Nobody ever mentioned anything about the 4,000 units of housing just one block away. As soon as I looked into the documents as to what you can or cannot do, I found out that the whole design was made, and there was nothing you could do. I find, therefore, that the criticism should have been in a stage long before the architects and planners stepped into the picture. Any definition or specification of density which is set, sets the designer. There is nothing the architect or planner can do about it. As long as that density is set, the price tag is set. Once the price tag is set, no architect can ever change the mind of his client."

On another occasion, Mr Pei made a plan for a redevelopment project which was accepted. "On this plan were large public spaces. Somehow interpolated into the paper was one statement made by the head of the redevelopment authority . . . very proudly saying that this agency will be able to recoup fifty per cent of the cost of the acquisition of the land. This was a loudly acclaimed achievement, both by the people and the press. I realize now that that statement formed the poison which today is going to shape the design of that plan, and not people like ourselves coming later. We have to squeeze all the money we can get out of it . . . The official claims he is going to recoup a large percentage of the money spent by the government. We have to merchandise the real estate."

Mr Pei then went on to suggest that critics should read the specifications, construct a visual picture to the public of "*this*, not *this*." Unless this is done, "we are absolutely helpless."

Catching the decisions while they're being made

Let us go behind Mr Pei's back a moment. Where do decisions begin? In the minds of men. And when do the rest of us first hear about them? When somebody says "Let's just try this on for size." Or "I'm just thinking out loud but . . ." They begin with a dream, a doodle on a piece of paper.

These are the reflection points, where future policy gets shaped—as in many a business, the big decisions are made when the two senior executives meet in the hallway.

Who keeps records on the decision-makers? If you've ever tried to find out where public policy

begins, you come smack up against the realization that nobody's keeping the minutes. Even when policy shapes into action, there is an amazing lack of record-keeping.

Who keeps the batting averages of the players?

In trying to weigh the results of city planning somebody's got to find out who the players are and how they're performing. (This gets harder all the time when the decision-makers are concealed behind, let us say, a tri-state semi-governmental corporation which meets in secret and announces decisions through vice-presidents in charge of public relations who can never give answers unless they're in the script.)

In other words, what have these fellows done before—these fellows who are shaping our cities?

It is a rare newspaper which asks, or tries to answer this question. Let me cite an exception: George McCue on the St. Louis Post-Dispatch. He recently analyzed two proposals for downtown redevelopment in these words:

"Both the Third Street proposals, then, have been prepared by designers of broad backgrounds and excellent reputation. The choice is between differences of physical appearance and the economic possibilities . . . One of these major points, the Kitchen [by Lewis Kitchen] plan seems preferable . . . Visually [it] would inject some sorely needed excitement into our drab riverfront skyline . . . [it] would allow many more options for future designs of greater variety." *

What choices do we have?

A major weakness in planning, it seems to me, is the failure of both planner and politician to tell the public what its choices are; and then to make clear recommendations wherever they can.

These choices, I think, ought in every instance to be illustrated graphically—with sketches, air-views, photo-montages, scale models. I would even suggest the educational walk—a walk through a project area, down a proposed expressway route—with appropriate markers, so that people can actually see what's going to be done.

As a reporter and editor, I have done my share of trying to translate the planner's zoning envelopes, setback requirements and land-use regulations into the English language. All I or my readers really needed was a picture, a scale model.

Let me remark parenthetically that I have been in many planning offices around the United States trying to understand what planners are doing to me and my environment. The ones with the clearest answers, it seems to me, had scale models.

*Post-Dispatch, March 13, 1960

When I asked a question in the Philadelphia city planning office, one of the architects on the planning staff answered it silently. He pulled out a piece of balsa wood, a knife, and carved the answer—a small building—and placed it down on a scale model of the city.

Too much of the planners product is thrown at us as a *fait accompli*. If you provide visual choices, we publish them—and the public learns in the process.

Example: Recently the *Miami Herald's* Sunday real estate section published a piece of promotional art—a sketch of a proposed waterfront development of skyscrapers in Coconut Grove. As soon as the public woke up that morning they began calling Frederic Sherman, the real estate editor. "We're not going to let you do THIS to us," as though Sherman were the developer! The Coconut Grove Civic Club is concerned about this development which some of them consider a threat to the intimate, small scale of their community. I cannot judge the merits of the case. But I think this contains a lesson for all of us: The public deserves to be shown—ahead of time—what the dreams and schemes of planners and promoters alike will do to the public's environment.

What are the obstacles to criticism? Let me list them by phrases:

1 "Don't rock the boat."

This prevents criticism, not only of what's come before, but what's coming next. "Better not criticize that new State Office Building; the governor won't approve the next building." "Don't publish what the local American Institute of Architects chapter says about the redevelopment project until after Washington approves the contract."

2 "This is not an appropriate time for criticism," or "Not now."

The answer to this is: No time is appropriate—to the person or agency criticized, which has nothing to do with the case.

3 "Why ask for trouble?" (variation on "Don't rock the boat.")

Most people in your profession, I am sure, feel they've got troubles enough already. Why ask embarrassing questions?

4 "We need positive thinking."

I agree. But to think positively about unpleasant matters, such as failure, unsightliness, uglification is not yet un-American.

Which brings me to another question: What are the purposes of criticism in its broadest sense?

First, to identify and kill off the weeds growing in our cities. The weed-killers include an honorable company; Jacob Riis, Lincoln Steffens in

earlier days; Lewis Mumford, Catherine Bauer in our own day. Your own profession has some experts, with their own brand of 2-4-D.

Second (and not in order of importance): To encourage good designers and their associates by singling out the un-sung and un-heralded examples of adventuresome planning, good design. Hidden away in your community and mine are wonderful examples of somebody's genius—a pocket of beauty surrounded by acres of blight; an oasis in an urban desert of ugliness; a well-turned corner, a magnificent view. Such urban treasures—often obscured by neglect—need to be singled out for praise, identification and imitation—whether on the new city plan, the gasoline company map, or in the newspapers it doesn't matter.

Third: To give the planner and designer a new and broader audience—if not appreciative, at least well-informed.

Fourth: To translate to the planner-designer the reaction of his audience.

Fifth: To help educate the consumer of urban design—the increasing millions of people living with the stuff coming out of the planners' pipeline—to the choices available to them.

Walter Pater, in his "Studies in the History of the Renaissance," had this to say of the critic:

"The function of the esthetic critic is to distinguish, to analyze, to separate from its adjuncts the virtue by which a picture, a landscape, a fair personality in life or in a book produces this special impression of beauty or pleasure, to indicate what the source of that impression is, and under what conditions it is experienced."

Edmund Burke reminded us that:

"As the arts advance toward their perfection, the science of criticism advances with equal pace."

In dealing with the products of city planners—the great and small complexes of buildings and designed spaces, and all the rag-tag and bobtail in between which make up our townscape—the cities inside and outside the planning professions are obligated to understand the forces that bear on planners—speculators' arguments, the alderman's conservatism, the Federal bureaucracy and all the unpleasant etceteras.

But sooner or later you and I must stand back, separated from all these mitigating minutiae, and look at the end product.

And then, I think when we discover that the end product is a thing of great beauty, a joy to behold, to live and to be proud of, then we will indeed agree with C. McKim Norton who said:

Man can plan.

But to design is divine.

PHILIPPINE ARCHITECTURE

BY RODRIGO PEREZ III

I

History and Development

► To be honest and accurate, an appreciation of Philippine architecture must include even such structures as have not been so far normally accepted as architecture, otherwise the record would be far less interesting and would fail to indicate the progress and revolutions in architectural thought. A new definition, therefore, must necessarily be more flexible and more comprehensive: Architecture is not merely the art and science of building, as Webster puts it, but man's functional response to nature and environment as expressed in structure. Architecture is a necessity since it answers both spiritual and physical needs. It is as a vital aspect of life and culture that it must be examined.

Primitive Architecture: a response to nature

The primal forms of architecture in the Philippines were presumably neither the product of art, as we understand art, nor of science, as we understand science. A quarter of a million years ago the earliest of our primitive forbears were content to live in caves and rock shelters. The pygmy types who migrated to these shores thirty thousand years ago eschewed the caves in favor of a type of lean-to shelter crudely fashioned of leaves fastened onto a fragile frame and propped up by a pole. This later developed into a larger and more durable structure which did not depart much from the basic principle.

40 The type A Indonesians who came twenty-four thousand years later introduced grass-covered houses with wooden frames and rounded roofs. These were originally sunk about three feet into the ground, were later raised to ground level, and still later were constructed on stilts. These developments may be ascribed to presumably unfortunate experiences with dampness and "crawling things."

The fourth wave of migrants which came about three thousand years ago introduced squarish

structures provided with windows, supported by four posts and capped by a pyramidal roof. The sixth and last wave of migrants which came two thousand years ago was responsible for the introduction of the elevated houses built on water.

Thus runs briefly a history of our primitive architecture which must be considered the logical foundation of all architectural developments.

Rural and Tribal Architecture: a prototype

These primitive structures, one may venture, comprise the majority of structures in this country. Our rural and tribal architecture is not markedly different from the improvisations of the primitives. The typical nipa hut of the lowlands, the huts in the Mountain Province and the Taosug houses in Zamboanga and Sulu are actually survivals of the hypothetically inaccessible past. We may very well venerate them as the tried, tested and approved architecture for our climate. Twenty-eight thousand years of evolution cannot be ignored.

These types of structures vary according to natural and sociological circumstances. Ifugao houses, for example, have a mere strip of window and are solidly built. The problem in their case is maintaining warmth within the house and resisting mountain winds.

The lowland nipa hut purposes to take advantage of the breeze and to serve as protection from rain. Windows are much larger; floors are slatted to insure the continuous flow of air; window shutters swing outward to serve as awnings.

The Zamboanga and Sulu huts are especially designed for seafarers. Water circulating underneath the house has an incomparable cooling effect, and water happens to be the most efficacious means of transportation in the area.

Through Leandro V. Locsin, architect of Pasay City the Journal received two articles written by Mr Perez, himself an architect. The two complement each other so well that we present them both in this issue. The first article is reprinted from Mobilways, Vol. III No. 4, Standard-Vacuum Oil Company

Other examples of pre-Hispanic architecture would be the Maranaw and Magindanaw houses in Lanao and Cotabato. Indonesian in inspiration, these structures mark the full flowering of our pre-Christian culture. Steep, graceful roofs, extremely solid construction and prodigious ornament are few of their especially interesting features.

To some extent, these pre-Hispanic structures formed the basis for the residential architecture which flourished during the Spanish and early American chapters in our history. The steep roofs, the elevated living quarters, the concern for ventilation, the concept of space, the straightforwardness of construction and the use of indigenous materials indicate the parallels in style and principle.

Aside from the fabulous Ifugao rice terraces and other equally remarkable though less extensive terraces, our pre-Christian culture, judging from available history books, has left no grand monuments, no possible equivalent of the Pyramids or the Parthenon or the Hanging Gardens. The absence of such wonders may be ascribed to the undeveloped social and political system, to an animistic faith rather than a supremely systematic religion, to the absence of durable materials, the insufficiency of labor and manpower, or perhaps the absence or ineffectualness of a promising despot. Nevertheless, the rice terraces prove at least that our forbears were not incapable of magnificent conception and equally magnificent execution.

The Spanish Era: elegance and solidity

The old Spanish-style houses, which scholarly critics term "Antillan" and which are found in the older districts of Manila and in most provincial communities, may be considered the high point in the development of indigenous architecture. These houses were basically the outcome of the expansion and refinement of our primitive architecture. Undoubtedly they absorbed many features introduced by the Spaniards, but not without modification and certainly without prejudice to their fundamental principles.

Elegance and texture were the new additions to the architectural idiom. The prosperity brought about by a more or less organized social system expressed itself in the richness of design and craftsmanship. Large, continuous glass and shell windows, spacious rooms, grand stairways, low relief decorations on wall and door panels, wooden filigree, high, ornate ceilings, paint and polished wood, carved "verandillas" and ceiling ventilators,



Detail of Antillan house at Cavite shows the fine craftsmanship of the Spanish era



Taosug huts in Sulu, the homes of seafaring people, stand on stilts over the water. Courtesy: Mobilways



Environment and materials dictate the form of primitive architecture. These Ifugao huts beside the Banaue rice terraces were built to retain warmth and resist mountain winds



Nineteenth century house at Pagsanjan, Laguna



Church at Paoay, Ilocos Norte. Note the dramatically heavy buttresses

classic ornaments such as columns, pediments and caryatids, which were integral with structure, were earmarks of the new and splendid style. It was the age of the Maria Clara, the sweet, delicate embroidery on remarkably fine fabrics, the voluminous silken skirts, the intricate jewelry, graceful furniture, harps in the parlor and elaborate manners. It was an age of romance, warmly expressed in architecture.

That romance, that longing for and recollection of distant places existed equally in the churches which were a curious result of Spanish design and Philippine-Chinese workmanship. The prevailing influence was a kind of simplified Baroque.

Engineering-wise the early churches must have been quite remarkable in their time. A great many of them were constructed in the elevated portions of the townsites, the better to command attention. Their massive, earthquake-proof construction was prompted by practical and perhaps poetic reasons. The church was the communal refuge in time of disaster, the faithful's fortress against storm and invasion, and the enduring symbol of the Faith. It had every reason to be the most invulnerable structure in the community.

The churches at Paoay, Miagao, San Juan (*Santuario*), Morong and in many of the Ilocos towns and the San Agustin Church in Manila are among the outstanding examples. The Ilocos region is noteworthy for its fine collection of churches, to name a few, the aforementioned Paoay, San Nicolas, Baloan, Bantay, Vigan, Laoag, and Santa Maria. The apparent minor influences are quite varied, ranging from Hindu and Siamese to Gothic, Romanesque and Baroque. It is presumed that these were designed by the Spanish friars and were executed by Filipino and Chinese workmen. The floor plans were simple: Basically rectangular or modified cruciform. The structural conception was equally simple: Thick walls and buttresses. It

was in the facade and interior embellishments that both designer and executor exercised the utmost of art and ingenuity. Ideas for the facade were presumably derived from old prints and paintings or were substantially what the supervising friars recalled of churches on the European continent. The execution must have been a perplexing affair since the workmen, as may have been expected, were unfamiliar with the exquisite proportions and refinements of European architecture and were largely dependent on their instincts and their gift for improvisation. It was thus that a curiously distinct style insinuated itself upon our landscape.

The later part of the Spanish period saw the emergence of the first trained Filipino architects, foremost of whom was Felix Roxas. Roxas is credited with the design of old Santo Domingo Church in Intramuros and of several magnificent residences. That twilight era was marked by, among other things, the construction of the San Sebastian Church and the Cathedral of Manila.

Early American Regime: a transition

A number of changes were introduced during the early part of the twentieth century. Typical structures include the tropical bungalows—steep-roofed, elevated, rectangular structures—the further development of the Antillan house, and the plain, "classic" civic structures, such as the public schools. The schools were the prototype of a style—massive, monolithic arcades and colonnades, steep roofs and shell windows—which found its apotheosis in the Philippine General Hospital and the Manila Hotel. In the strictest sense, the style was functional. So far, architecture pursued the principle founded by the ancients.

The intensified communication between the Philippines and the Western world, particularly the United States, effected radical changes in architecture. Filipino architects like Juan Arellano, Andres Luna de San Pedro and Juan Nakpil, who went abroad for their education, developed into major influences. Arellano, a traditionalist, produced such awesome works as the Post Office building and the Metropolitan Theatre.

At the time, modern architecture was adapted as a style rather than a principle. The use of glass, reinforced concrete and "modernistic" lines and the imitation of forms espoused by European and American architects—who evolved such for an entirely different climate—highlighted that period of transition. Modern architecture was superficially appreciated. It was simply its elegance which found favor.

It was in the complex structures of the time,

cinema houses, office buildings, hotels and houses of the wealthy, that the new style was clearly expressed. The fundamental ideas were conservative; it was the approach to the problem of ornament and elegance that indicated the change.

The philosophy and methods which made modern architecture what it is were not eclipsed for long by the prevailing misconceptions. The emergence of such architects as Pablo Antonio, Angel Wakpil, Carlos Arguelles, Cesar Concio and their contemporaries and disciples injected new vitality into architecture. The age of reason in Philippine architecture was auspiciously returning.

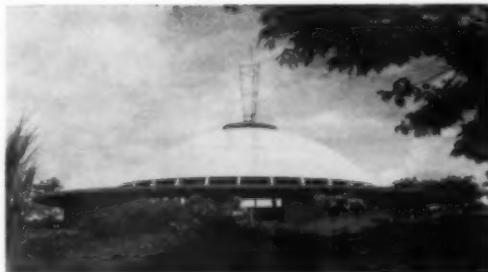
Developments, however, were cut short and misdirected by the second World War. The years immediately following the war comprised the worst period in Philippine architecture, glorifying in indiscriminate imitation, riotous grotesquerie and imaginative fakery. It was the result of a long suppressed appetite for glamour, the sudden taste of freedom, the lack of materials and the wildest improvisation.

Present-day Architecture: a new spirit in design

For all its common sense and honesty, contemporary architecture in the Philippines has in form departed from the developments initiated in the prehistoric period and climaxed by the Antillian house. New materials, new engineering methods, new forms, new architectural features—many of which are importations—have evolved a new spirit in design. As anyone can see, contemporary residential and commercial architecture does not enjoy, or, from an opposite viewpoint, does not suffer any distinct homogeneity. Whether the situation credits the individuality of architects or testifies to the incredible range of superficiality is yet to be decided.

Our contemporary architecture is perhaps more romantic than functional, if we must understand functional as Le Corbusier meant it to be. Much of it though is based on reason, and much of it is derivative. Its virtues and its errors are the outcome of inescapable foreign influences—particularly North and South American. It has, in a manner of speaking, cut off itself from the past and has cast its fortunes with the West. It is, in more stringent terms, an embryo, and a strange one, as it happens to be a disembodiment from something foreign and mature.

The main question is, does it work? Its effectiveness and its history are two different things. It has so far been successful; it has become vastly popular, and it is more and more properly understood.



Chapel of the Holy Sacrifice at the University of the Philippines. Leandro V. Locsin, architect. The first 3" concrete shell dome in the Philippines, the church seats one thousand



The list of achievements along this line is quite extensive, including whole communities like the Philamlife Homes, Forbes Park, San Lorenzo Village, many of luxury and middle and low-cost residences, apartment buildings such as the Petrona and Monterrey, the National Press Club Building, the Chapel of the Holy Sacrifice, the Gonzaga and Garcia Buildings, the Ever Theatre, the UP Liberal Arts Building, the Shell, Caltex and Stanvac Buildings, the Magsaysay Building, the Shurdut Building, the Victorias Church, the Madrigal Building, the Montinola Building, the Children's Memorial Hospital and so forth.

The question now is, how Philippine is Philippine architecture? One might well ask, how Filipino are the Filipinos? From the earliest days to the present, Philippine architecture has inevitably been the result of migration, importation and derivation. That it is here, and that it works and succeeds here is reason enough to consider it an integral part of our life and culture. ▶

II

Baroque

THE FILIPINO OBSESSION

By Rodrigo Perez III

► It is a major obsession among the students and devotees of the arts to capture in a single word or in a shimmering phrase the complex and elusive quality of the object of their inspection or veneration. Simplification is dangerous business, as it involves blanket appraisals, and like all dangerous business it invites participation. It is therefore with some apology that we present these observations and the inevitable simplification. We have no mission nor purpose to accomplish. We are, presuming on your kindness, simply clearing our mind. The subject at hand has idled far too long in the privacy of our cerebrum and has developed, like an omnipresent relative, into a nuisance. The only way to dispose of it, so we have been advised, is to discuss it to death.

For all its apparent inconsistencies, its careless, composite, hybrid nature, its unabashed receptivity to change, Filipino taste can be summed up in one word: *Baroque*. Whether this is intended as a compliment or a condemnation, we prefer not to commit ourself. Calling it *Baroque* itself is enough of an imprudence. The term *Baroque*, supposedly a corruption of "baruecco," meaning a large, imperfect pearl, is commonly and properly applied to late Renaissance art. It has come to imply richness, profusion of ornament, incongruity between ornament and structure, delightful grotesquerie, theatricality, exuberance, extravagance, luxury, decadence and passion. Opulence, ostentation and obtuseness is quite evident to some extent.

The very same accusations which have been directed at Baroque esthetics may be directed, without compunction, at Filipino taste. Thus do we joyfully apply the term.

A scholarly diagnosis of Filipino temperament is not necessary to justify these imputations, nor to establish the indestructible foundations of these arguments. One merely has to expose himself to the sundry expressions of that irrepressible temperament: The manner of dress, for instance, or of decoration, or that aggregate called "the way of life." Everywhere one senses that sumptuousness which can easily be mistaken for pomposity, the floridness that is confounded with effeminacy, the desire for awesome effect that is frequently equated with bad taste.

"The Filipinio does not know when to stop," is aimed specifically at the dress designer, the architect, the interior decorator, the furniture-maker, the jeepney-decorator, and so forth, not to mention the public speaker. "The Filipinio cannot leave well enough alone." He conceives of creativity as indiscriminate accumulation rather than selection and control. He conceives of space as something to be filled, of art as an excuse for ornament rather than as a functional response. Witness the Spanish-style mansion with lions guarding the entrance, grilles that surpass grapevines in their prodigality, crenelated parapets, splendid towers wherefrom the lord of the house can sight galleons, and the cornices and erotica of Greco-Roman architecture. Witness the spurious modern villa with false chimneys, affected rusticism, outlandish roofs, enough plate glass to supply a department store chain, enough drapery to smother a slum fire, and a living room so plush that one expects the sudden emergence of Clifton Webb wearing a silk dressing-gown. Witness the house of the nineteenth century, with its superb confectionery, carvings, ornate ceilings, grand stairways and verandillas. Contemporary or otherwise, Filipino architecture confirms the reflection that splendour is a many-loved thing.

Whether he adopts, combines or overhauls such wayward influences at Moorish, Spanish, Greco-Roman, Brazilian, Frank Lloyd Wright, Le Corbusier, Japanese, Exposition Malayan, or Metro-Goldwyn-Mayer, the Filipino persuasions are enduringly Baroque. The style may not always be Baroque, but the attitude definitely is.

Barong and Terno

It is well that we pursue the investigation further and confine these appraisals to the realm of the unschooled artist and the non-artist. Witness then the *barong tagalog* and its indispensable em-

broidery and its occasional goldplating; the *terno* and its unquestioning incorporation of the latest discomforts in the fashion world. Witness the *carromata* and the *calesa* and their whimsical embellishments, the beaten metal panelling or the floral compositions, the rococo fenders which can only collapse while serving their purpose. Witness the jeepney, the motorized extension of the *carromata*, with its chromium trimmings, the pseudo-Venetian rear-view mirror, the elaborate hood-piece, the abstract paintings on exterior panels, the flashy, grinning radiator grille, the fringes or perhaps curtains, and the lively unorthodox coloring.

Witness further the ice cream wagon, with its irrelevant landscapes, its flaming spectrum and knobs which seem to have been designed to a Mozartian air; the Christmas lantern, with its simulated lace, furry frills, tinfoil trimmings and tassels; the pagodas of fluvial processions, almost pagan in their indulgence; the front gardens with their exotic conifers which are given preferential treatment and centrical position and which are protected by row after row of *cuchritas*.

Fiesta Decor

Witness the fiesta arches and the whole complement of fiesta ornaments, the coronation chair, the coronation gown, the coronation speech. Witness the fiesta itself which is a Baroque fantasy, an extravaganza of ritual, food and finery.

Witness, though at this point it would seem exhausting, the hand-made furniture, the *aparadores* festooned and crowned, the high-black chairs with their abundance of flora and fauna; the *sala*, with its frothy curtains over doors and windows, the family portraits, the diplomas, the *masetas*, the fringed cushions, the crocheted doilies, the *escaparates* and the unused glassware and silverware. And witness the *tienda* which likewise unexempt from the grand manner proudly displays every item in stock, canned goods in a pyramidal or Rock of Gibraltar arrangement; fruits, sausages, vegetables and *bakya* suspended like chandeliers over the counters; shelves, though beyond human reach, crowded with commodities, and every bit of space, horizontal and vertical, impressively occupied by miscellanea.

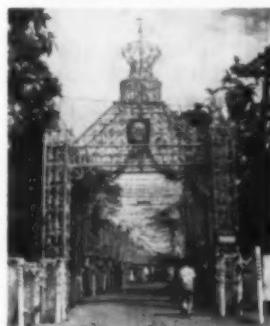
We have deliberately avoided the conscious artist who necessarily exposes himself to foreign influences for his improvement and edification, and have instead concentrated our interest on the unconscious ones whose principles are their instincts and whose instincts, to use a phrase from an obscure comedy, are "unhampered by taste."



A calesa. Note ornated dashboard and seat. Courtesy: The Manila Times



A "jeepney." The irresistible impulse to decorate! Courtesy: The Manila Times



A fiesta arch (constructed of bamboo). Courtesy: The Manila Times



The bamboo organ in the church at Las Pinas, Rizal—native yet Baroque

We have referred to domestic architecture in our Baroque enumeration, but it is common knowledge that such architecture is frequently no more the product of the architect's principles than the occupant's caprice.

But why the term Baroque? The question is better answered by other questions. How else can one compress that vast picture of exuberance, extravagance, etcetera? And how else, but through that singular word, can one communicate in an instant, the plethora of implications, grandeur and absurdity, conscientiousness and perversity, elegance and disorder? Furthermore, the reference to an overblown, imperfect pearl is quite felicitous, if not patriotic in its gauche exploitation of Rizal's "Perla del Mar de Oriente." What other word will suffice?

One credible explanation for these Baroque predilections is that the Filipino's first brush with Western culture occurred in the Baroque era. The friars, the civil servants and the adventurers from the Peninsula were obviously not unsusceptible to the great affliction that was sweeping Europe. The Spaniard coughed, and the Filipino succumbed to the contagion.

Churches, government buildings and residences of Hispanic vintage, and all the architecture that followed prove the validity of that explanation. Christian Philippine architecture has always been florid and romantic. History explains the style. But history alone does not explain predispositions and attitudes.

If the Filipino is incurably Baroque, it is only because his landscape is Baroque—lavish, brilliant, undisciplined, and perpetually so. As nature acts on vegetation, on flora and fauna, so does she on human sensibilities. Fertile soil, abundant sunshine and beneficial rains have made the country what one customarily calls a tropical paradise. The Filipino experiences neither spring nor winter nor fall. He never sees nor learns to appreciate a desolate landscape swathed in snow—a landscape in epic simplicity—the withered colors of autumn, the restrained richness of spring. It follows then that he never learns to appreciate the beauty of outlines, the pure, classic magnificence of nature divested.

What he experiences three hundred and sixty-five days a year and year after year is a splendidly ferocious summer—with its glorious, green panorama, brilliant flowers, succulent fruits, grass and vines encroaching on untended soil, on rocks and ruins. What he sees and cannot avoid seeing is an unmistakably Baroque landscape, uninhibited, unrestrained, theatrical, exuberant, over-

flowing with life and energy—nature in her wild and faultless magnificence. He sees neither desert nor snow-capped mountains. In the highlands and in the lowlands, he can only be overwhelmed by nature's lush, operatic scenery.

It is inevitable then that his taste is conditioned by his environment. His enforced acquaintance with the richness around him develops into a standard of excellence and a canon of taste. What is rich is beautiful. Thus operates his esthetic judgment.

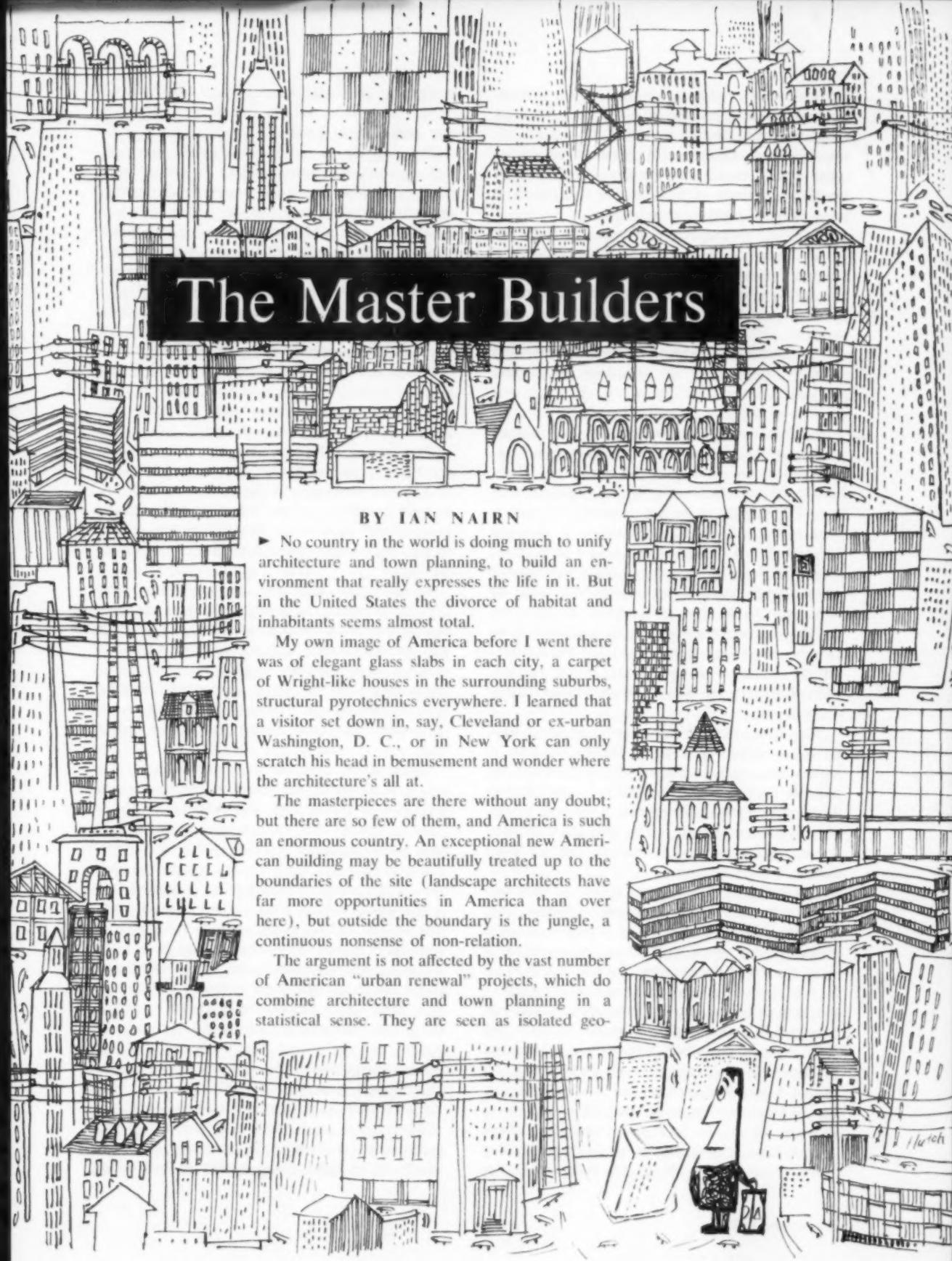
Lavish Patterns

He sees the lavish patterns of nature and he imitates them in his passion for profusion; he sees the flowers and fruits, and he promptly incorporates them in his decorative motifs; he sees the brief, brilliant sunset, and he forthwith reflects those colors in his haberdashery. He never learns the value of restraint for the simple reason that nature around him has never learned that herself.

It is quite foolish indeed to entertain at this point the wisp of an opinion that all this disputation has been supremely purposeless. But this can materially serve the students of art who would fondly predict the future of Filipino taste. □

FOR THOSE WHO DON'T KNOW THE LANGUAGE!

<i>barong tagalog</i>	men's national costume made of transparent silk or pineapple fiber elegantly embroidered in front
<i>terno</i>	Filipino national costume with butterfly sleeves
<i>aparadores</i>	old-fashioned vertical storage cabinets
<i>sala</i>	the living room
<i>masetas</i>	potted plants
<i>escaparates</i>	glass-enclosed shelves
<i>tienda</i>	the "corner store," where almost everything from canned goods to nails can be purchased
<i>bakya</i>	wooden slippers



The Master Builders

BY IAN NAIRN

► No country in the world is doing much to unify architecture and town planning, to build an environment that really expresses the life in it. But in the United States the divorce of habitat and inhabitants seems almost total.

My own image of America before I went there was of elegant glass slabs in each city, a carpet of Wright-like houses in the surrounding suburbs, structural pyrotechnics everywhere. I learned that a visitor set down in, say, Cleveland or ex-urban Washington, D. C., or in New York can only scratch his head in bemusement and wonder where the architecture's all at.

The masterpieces are there without any doubt; but there are so few of them, and America is such an enormous country. An exceptional new American building may be beautifully treated up to the boundaries of the site (landscape architects have far more opportunities in America than over here), but outside the boundary is the jungle, a continuous nonsense of non-relation.

The argument is not affected by the vast number of American "urban renewal" projects, which do combine architecture and town planning in a statistical sense. They are seen as isolated geo-

metrical essays, rather like most London County Council schemes, and the whole project becomes a big building. Outside it, again, the jungle; inside it, often, an artificially imposed architects' order which makes no attempt to realize the astonishing variety of ways of life still practised in an American urban population.

The issue is complicated by what seems to be a sadly typical American pattern, that of building a superb building in a new style at the first attempt, and then not bothering to experiment any further, or even to profit from the merits of the lone swallow.

The outstanding example of this singular and strangely sterile sort of splendour is Gordon Bunshaft's Lever Building in New York. It was the first of the curtain-wall slabs, built in 1951. It was humane, elegant, beautifully proportioned and detailed. And nothing nearly as good has been put up since, even by the same firm. There have been imitations aplenty but evidently nobody has thought to imitate in quality as well as in quantity. All that happens now is that the architect simply orders so many bays of Number So-and-So from the catalogue, and curtain-wall manufacturers make the operation even easier by providing special bays to get over the little bits that may occur at the ends of awkward sites. Even Lever's newer next-door neighbour has curtain-walling applied with extreme crudity to the traditional pattern of New York set-backs in the upper stories.

The same sort of thing has happened with the suave Alcoa building in Pittsburgh and its tawdry imitations in Dallas. The same thing appears to be happening with Mies van der Rohe's Seagram building in New York, a splendid single-minded bronze torrent; in this case the imitations come in gold-anodized aluminium and are quite outstandingly repulsive.

Something similar has overtaken all the new structural forms that ingenious engineers are bestowing upon architects. The novelties are used seriously once or twice, taken up *en masse* for a year or so, then thrown away for the next fashion, all with their true qualities unexploited, yet with the form so debased by repetition that nobody can ever use it again with freshness. So with the saddle-roofed exhibition hall; the original design in the State Fair Grounds at Raleigh, N. C., makes splendid structural and functional sense, but its imitators obviously were trying mostly to make pretty shapes. So with Buckminster Fuller's domes. Last year they were everywhere, housing Santa Claus in the Northland Shopping Center

in Detroit, for example; next year they will be *passé* and people will be scurrying around for new architectural kicks.

The situation is not a very healthy one, and with architectural photography at its present state of expertise it is almost impossible to distinguish good from bad without actually going to see—no easy job with a building such as Wright's Price Tower in Bartlesville, Oklahoma, for instance, which is four hundred miles from St. Louis, with almost nothing in between.

Wright himself, the only architect to take hold of the imagination of the American public at large, is an enigmatic disappointment. His late buildings like the Price Tower and the Guggenheim Museum seem to have been built in spite of both man and materials—oddly enough, coming as they do from the protagonist of organic architecture. The Guggenheim is a soapy yellow, the Price Tower a weary amalgam of verdigris and stained cement, and the details on both are actively repellent. Yet the unlovable inside of the Guggenheim shows that Wright's superb ability to play with space stayed with him to the end of his life.

Saarinen, alas, is another disappointment. Now that his Embassy is nearly built in Grosvenor Square, people in London can see why: His buildings are overloaded with architectural ideas not realized in architectural terms. Hence the fantastic shapes of the TWA terminal at Idlewild, and the monstrous Viking-boat concrete fancy dress given to a poor simple ice-hockey rink at Yale.

Much of the best American architecture never gets into the public eye at all. There are the real wild men of architecture, too wild for the magazines to handle—but not poseurs—accepting with both hands the really marvellous variety of forms and materials which technology has made available, and putting up buildings as exciting as any in the world. I have seen the work of only one, Bruce Goff, and his architecture is very wild and very good indeed. Typically, he has a medium-size country practice in the middle of Oklahoma, and most of his clients are ordinary Oklahomans who treat Goff's extraordinary shapes as something quite natural, helped by the fact that the houses are cheap and that they do work in a commonsense day-to-day way where many better known modern buildings don't. There is Louis Kahn, whose work displays naturally and from inside all the excitement and personality that Saarinen has had to apply externally; there is a whole set of firms doing honest straightforward

work that is usually too honest to be slickly photogenic.

And over a huge area of America there are the entirely anonymous barns and other agricultural buildings, each one with the precision and solidity and elegance that most architects take years to achieve. From New England to Missouri is barn country, with an extension down into Kansas and the Panhandle of grain-elevator country, tiny towns scattered on the prairie like so much flotsam, quite overshadowed by the enormous serene white cylinders, giving identity by their different placing and proportion much as Lichfield or Canterbury Cathedrals do by the number and relationship of their towers and spires.

The barns were my biggest and pleasantest architectural surprise in America, and they helped to keep me sane on the super highways. They often formed the only oases of relationship in an endless proliferation of every kind of artifact without purpose, without pattern, without end. It is not an environment of admirable individual freedom or attractive chaos. In fact it is the most regimented environment in the world, chained to the advertising of half a dozen petrol firms, the "built-in obsolescence" of motor-cars,* the assumption that nobody wants to walk anywhere, the assumption that man is king of his environment and can kick it about how he will. So the landscape is a mélange of diners, gas stations, sub-divisions, a few battered farms and fields, motor-car dumps, motels, supermarkets, quite literally for miles on end. Cleveland to Sandusky, fifty-nine miles; Providence to Boston, forty-three miles; Riverside to Los Angeles, fifty-four miles. These three, which I myself have endured, can be matched in every State and along every federal road in America.

There is no freedom and no choice. The edge of every town looks the same, just as the centre of every town, bar perhaps half a dozen or so, is a grid-iron, the lowest common denominator of planning, without alternative or imaginative implementation. It has been called "exploding metropolis" in a famous series of *Fortune* articles, but the metropolis is often the least of it: It is really the explosion of every tiny part of human organized life. The tiny town in the middle of Missouri will have, in proportion, a larger penumbra of chaos than Philadelphia or Boston. A road in Iowa or Georgia, miles from anywhere, will suddenly sprout a sub-division, houses colonial, ranch style, southern, *au choix*, or a gas station, or a school, quite without relationship to anything else in the view. It is the crudest pattern of pioneer

settling applied to a country where the last pioneering was done nearly a century ago, where there are nearly two hundred million people taking up more personal room with more personal gadgets than ever before.

I am inclined to think that the diseases of the American environment are a disaster of the same magnitude as an H-bomb explosion but, alas, far more subtle. All we shall see, and we are seeing it already, is a smoothing down into sameness and monotony and unrelatedness of every type of human activity, and hence slowly, gently, insidiously, of people themselves. Ten per cent will always rise above the common standard as they would anywhere; the great human problem is whether the ninety per cent become beasts of burden or achieve their own self-realization to the limits of their abilities. And the sense of place, of identity, of belonging, is essential to the ninety per cent.

It is no accident that Kerouac's novel "On the Road" is really one long feverish search for the sense of place, feverish journeys from one side of America to the other ending in a feverish delighted acceptance of the sense of place—on the far side of the Mexican frontier. It is true. I drove down the Rio Grande to El Paso, two thousand miles from my base at Philadelphia, and in all artifacts indistinguishable from it, and looked across at, immediately, a different world: Houses in relation to their surroundings, expressing some kind of continuity with other man-made structures around and with the total natural order.

I know everything you care to tell me about relative standards of living on the two sides of the Rio Grande; but to improve material parts of the environment and to ignore all the spiritual ones is not really an improvement but the most utter, crushing defeat. Its manifestation is that everything in life loses its flavour, just as American food and beer, at least on the poor traveller's level, have already lost their flavour. This loss is a gradual slipping away, a sinking without trace, a grisly parody of Arthur Hugh Clough's "but westward look, the land is bright."

Meanwhile, the whole population has its eyes fixed to the Asiatic east, where, in spite of everything, the sun is rising slow, how slowly, the real H-bomb. But the fragmentation of all relationship of life and environment has already occurred and the silent main of universal anonymity and mediocrity comes flooding in behind them, and the survivors do not even know what has happened. I hope, in the name of all the splendid things in America, that I am wrong. ▶

The Painter and Architecture

by Seymour Fogel

The wide gap which has grown between art and architecture in recent years deeply disturbs Mr. Fogel, distinguished painter and Vice President for Mural Painting of the Architectural League of New York

► There is a question that hovers ominously—though largely unspoken—over the head of the painter today.

Has he become a superfluity in relation to architectural thinking?

Superficially speaking, this question appears to be not without basis if one uses as a yardstick the dearth of painter-participation in today's building. This is due partly to the thrust architecture has been making in recent times, and partly because the painter generally has not kept pace with this thrust because of its unilateral nature. In the case of architecture, the many developments—plastically, psychologically and economically—have induced a feeling of insularity on the part of architecture toward its fellow arts of painting and sculpture. Some of these developments, particularly in the engineering-design aspect, have been exciting, releasing, since they have greater elasticity and freedom of architectural form. In addition, the current awareness that function has other connotations beyond the original interpretation has brought the realization that expression should once again become a major part of the architectural vocabulary. This last has been detrimental to painter and sculptor participation only insofar as it tended to increase the architect's insularity.

A further stumbling block would seem to be largely economic. The ever-present and tyrannical square footage costs, the low-cost budget for concepts designed for the short haul—with a resulting flippancy of design—and the increasingly competitive situation that architecture finds itself in, have not helped to achieve an amalgam of the arts.

The slavish dedication of some of our architects to the coldly functional square foot base cost concept of building—and thus the false premise that the language of painting and sculpture is a "frill"—must be questioned if only in fairness to the public, the client and the actual cost factor itself. The old saw, "We do not live by bread alone," was never more true, and the "extra" virtues of spiritual and human values were never more needed than now in this age of mechanization and tension. A box-like room in a box-like building is hardly capable of supplying the emotional and psychological needs of a sentient human being.

A walk along the thoroughfares of New York certainly illustrates the point. One too often has the feeling of monotonous and rigid architectural formalization so unrelieved as to generate fatigue and oppression. This is certainly a stark indication that those who turn their back upon the language of communication that is born of art have only the one-way road of mechanization as a dismal prospect to explore.

The painter, on the other hand, being acutely aware that "art is long," is belatedly beginning to realize that his ageless wall has become a many-faceted kaleidoscopically changing entity. His wall of masonry has become one of glass, aluminum, steel and many other materials. His challenge consists not only of shrinking wall areas, but, art-wise, shrinking budgets as well. He is confronted in many cases by the esoteric titillation of gadgetry and a pastiche of textural arrangements, all at low cost and with a maximum ability to seduce the public. (This, in the name of art!)

In the course of trying to develop a rapport and find the answer to this developing situation, as far as it affects him and his historic role, the painter has in many instances muddled the waters of mutual understanding in relation to the architect, the client and himself, by an endless repetition of outmoded forms without validity in either time or place, when he should have occupied himself with the further developing of his means in form and technique so as to be more flexible in meeting on equal terms the endless technical challenges of contemporary building.

This necessary flexibility on his part suggests that the wealth of materials open to him must be learned and mastered if he is to bring an open mind plastically to the problems presented. The too-often appearing rigidity of concept on the part of the architect and painter is often due to the too-early mastery of only segments of their art. A little less narrow technical and esthetic specialization might bring a little more creative growth and meaning. The corollary follows that it's not just a matter of the right material and form in the right place, but of the right concept as well. It is only logic that a narrow and repetitive viewpoint, in both concept and means, on the part of the architect and painter—with its end-product of dated mediocrity—could, for the great part, be avoided by an early and joint effort. Their very difference of viewpoint dimensionally would certainly help.

But now, basically, we are faced with this situation:

Three of our greatest arts, which have throughout all our cultural past drawn creative strength from one another, have almost reached an impasse; the painter and sculptor increasingly returning to their purely personal work, and the architect to his modules. That each can be sufficient unto himself goes without saying—the painter and sculptor the more so since they deal more or less with themselves. However, civilization builds and grows from the overlapping and mutual effort of all its creative men, and architecture is no exception.

There are signs that the need for a new rapprochement is becoming recognized. The very thrust architecture has been making has been exactly paralleled by a like developing in painting and sculpture, so the seed of an amalgam has automatically been planted and it is now more a matter of proper cultivation than anything else. When one considers the scope of the immense building complexes under way—skyscrapers, shopping centers, airports, housing developments, hospitals, schools and churches—the need for dovetailing all areas of creativity becomes apparent.

Of course there are inherent pitfalls in any search for truth. The muralist's old cry, "Give me a wall," is being echoed in many instances by the architect's, "Let's get some art in our building." Both are good slogans, but unfortunately are in the category of "I'm against starvation," or, "Let's do something about the weather."

It used to be assumed at one time that art and architecture were one and the same thing, and possibly this is why we produced some fair to

middling edifices. What is architecture, if "art" has to be added to it? What is the difference between the professions of architecture, engineering and construction? If a construction outfit adds "art" to its work, what does it qualify as? Ditto, the engineer.

It would seem that architecture, to achieve the stature that it is historically entitled to, cannot get by merely having meetings, making speeches and talking exaltedly about adding art to architecture while continuing to produce anti-septic constructions. It simply and honestly must become art. The road is not easy, but can be negotiated if the architect gets off his self-constructed Olympian pedestal. He must recognize that the creation of meaningful structures is not merely a display of academic know-how designed by omniscient creators for the accolades of their own profession, or the results of dictates of clients (who need to be led, not followed). Rather it is a monolithic totality of purpose incorporating the best efforts of himself, the engineer, painter, mason, sculptor, lighting expert, acoustical man, day laborer, landscape architect, etc.

As for the painter's part—all problems of responsibility not being solely the architect's burden—he must be able and willing to keep the total architectural plan in mind. His contribution must become a vital ingredient of the whole, not merely a tour de force of personal performance. Paramount in his mind must be the simple axiom—a wall is a wall is a wall. That thin line separating completely free—and sometimes explosive—expression from that which grows naturally and richly from the matrix of its architecture is to be recognized at all times if he is to think in architectural terms.

True wall painting, to assume its necessary three-dimensional character in order to avoid mere decoration which is basically two-dimensional, must not only achieve inner harmony but exterior harmony as well in its manipulation of linear movement, color tensions and spatial planes.

To put it bluntly, both the architect and the painter sadly need maturity as well as humility. Then, and only then, can their abilities be intelligently directed in pursuit of the illusive goal of the relation of form and space to human needs. Of course, in the case of the painter and sculptor, this can be a somewhat risky business for the architect because he would have to make himself as conversant with the scope and relationship of their work to his needs as they would be conversant with his to theirs.



F. S. Lincoln



F. Wilbur Seiders



Leni Tselin

That this risk is already beginning to prove too much for some is illustrated by the current vogue of buying big painting and sculpture names and tacking their work onto or into already conceived situations. This automatically makes it possible for the architect to sleep nights, secure in the knowledge that he has faced life with fidelity to his profession. All well and good, but why not recognize that his fellow artists have a great deal more to offer than merely their names?

And just what can they offer?

For one, the introduction of acres of glass now current in architectural thinking is fine, but to what purpose if they only open upon vistas of drabness outside? The exploration and use of color and design on exterior forms must be developed with imagination and daring if architecture is to reach that completeness of expression inherent within its framework of responsibility. The vulgar titillation of aluminum surfaces and the unrelieved areas of dun-colored concrete are no answer. Endless miles of masonry, metal and glass must be breached, if only in fairness to our esthetic sensibilities. Here the painter can contribute greatly, especially in his knowledge of scale and projection in relation to color.

The shrinking budget for art will cease to shrink when the architect and client realize that "art" is an economic problem only when it is improperly considered as an appended and belatedly added addition to the final form. Dealt with from the very inception—both design and budget-wise—it becomes a part of the general appropriation as well as an integral ingredient of the building. As such, it can fulfill functions as necessary to the complete realization of the structure as any other component, and, as a cost factor, easily carries its own weight. Obviously, dealing with the matter from the beginning is the responsibility of the architect in educating the client. He cannot shirk this responsibility by pointing his finger at someone else.

Other functions performed uniquely by painting?

Color illuminates form. A simple recognition of this truism brings the architect to the inevitable realization that a knowledgeable understanding of color and its functions is indispensable to his thinking in plastic terms. Further, since color exercises such a direct and powerful influence upon space, it must assume its proper place in his vocabulary. The directions that the use of color as an architectural tool can take are, of course, as unlimited as the very nature of the development of his form—and equally as un-

explored—but its immediate and practical use is obvious.

Since the actual dimensional values of architecture can better be fully realized by the proper use of color, the simple breakdown of space that exists in the architect's initial plan must be looked upon as suspect until it is properly described by color—and by "color" I do not mean just the primaries. For him to evade this creative responsibility may cause his thirty-by-forty room to end up a ten-by-twenty or eighteen-by-sixty. This would suggest that both color and form are identical twins at the primary stage of design.

Beyond this organic use of color, its secondary uses are in a way almost as vital insofar as they augment his possibilities in terms of problem solution. The intelligent use of space modulators in color as a means of subdividing unwieldy and too-large areas into more pleasing volumes; the activation of static areas by the use of color tensions; and, in reverse, the control of visually offensive too-complex spaces, all lie within the realm of color function. In addition, the psychological, therapeutic, spiritual and human values inherent in the sensitive use of the mural form are incalculable, as has sometimes been demonstrated in our hospitals, churches, schools, and other like institutions. Unfortunately, these areas have been only feebly explored, but at the least some examples can be construed as hopeful developments.

For the architect not to take advantage of this is unbelievable short-sighted.

Whatever heading a dovetailing of effort would come under is unimportant. The important thing is that it would cease to be merely an academic exercise in wishful thinking and become instead a reality. The architect of today standing in the midst of an incredible era of building, simply has to accept the responsibility of his role in not only shaping the physical environment of our society but also its cultural development. His reaffirmation as a prime mover in our arts must be made. His rededication to the creative greatness of his profession must be felt, and his reacceptance of the painter and sculptor must be implemented.

The paradox of the painter, with his wealth of ability to contribute, being concerned with his superfluity in relation to architecture must be resolved, if only for the sake of a healthy growth—and direction—of architecture. The tradition that the true measure of a civilization is reflected in the greatness of its arts was not built upon the notion that these arts functioned independently of each other. ▲



Erwin





Favorite Features of Recently Elected Fellows

Alexander Georges



ROBERT LAW WEED, FAIA

of Weed-Russell-Johnson Associates

Miami, Florida

*Sears Roebuck & Company
Tampa, Florida*

Alexander Georges



*There is a growing dissatisfaction with certain manifestations
of contemporary architecture, and some of the younger designers
are most articulate in expressing it. (Remember William Lyman's
"Day of the Stunt" in the September '59 Journal?) Mr Fitzpatrick
finds that the human being has been "nullified" by corporate architecture*

► From the haze of the once lusty and virile city of Chicago, where over half a century ago was brought forth the first effective expression of the skyscraper, there rises once again significant architecture. Within the walls of the almost museum-like display of architectural history and expression found in Chicago's loop area, a new skyscraper has recently been completed—tall, precise, beautifully aloof, and somehow gleamingly out of place among the crowded, time-darkened and dirty buildings of Chicago's past.

This expensive, much-publicized structure, is the Inland Steel Building, and its expression, origin and philosophy may well represent the status and momentum of American architecture today.

Its presentation is a very precise one, with every detail carefully considered and revealing throughout the approach and ideals behind it. Rigid modular planning is emphatically brought from the plan to the stainless steel-clad columns placed on the outside of the skin, which is in itself a repetition of the module in steel mullions and glass. This repetition of repetitions develops the *feel* of the building, and this physiological and psychological factor is the key to what architecture actually is, what it does to man, and how it is brought about.

The way a building feels or affects the senses of individuals is the indescribable ingredient that makes architecture almost impossible to criticize, understand or comprehend from photographs alone, and can come only from the personal experience of seeing and entering a work of architecture. The "feel" of the Inland Steel Building derives from two principal conditions.

The first is the highly refined development of module, proportion and use of materials—in this case an exterior of stainless steel and glass. One can find intellectual appreciation of the obviously tremendous amount of skilled planning, programming and careful consideration of the effects

AMERICAN ARCHITECTURE:

Finesse

&

Finance

55

BY MC CALL FITZPATRICK, AIA

produced. The building is almost vocal in the proclamation of finesse and finance, as a product of the ultimate planning, planning of an office for a major company located in downtown Chicago, USA. No wasted motion here! This structure says "business" and moreover, it says "successful business."

The second condition which impresses is the fact that somehow the human being, so often misplaced and scarcely considered, has been nullified again. Everything seems so smooth, so fine, so slick, that the people who work in and around are somehow superfluous and a little incongruous within the over-all picture. This aspect was illustrated by an incident which occurred during a visit to the office of the designing architects located in the building. Entering one of the inner reception or waiting rooms the visitor found what has almost become a trademark, or cliché, of the entire philosophy of the architecture: It was a rectangular room with three modular panel walls, the fourth a marble one, against which was a rectangular carpet with a rectangular polished marble coffee table carefully centered, with a pair of stainless steel and leather chairs on each side, squared to each other and the table to complete the composition. Such a pedantic and precise scheme was too much for the visitor who succumbed to baser impulses and moved one of the chairs into a position which would allow comfortable conversation. This move created considerable unrest among the witnessing principals and resulted in prompt repair of the furniture layout by a lesser light who, shocked at such gross action, commented "What have we here?"

The question summarized the situation.

This building, and the many more similar to it, is emerging as the principal and most influencing characteristic of contemporary American architecture. As such, it is of significance to each individual, and its causes and effects need to be examined by laymen and architects alike.



History repeatedly affirms that fundamentally the effective social, economic and ethical concepts of a society are revealed more or less in all material forms created by that society. This is true in such expressions as music, painting, drama, clothes, silverware, literature, furniture and speech, but because it combines almost all aspects of creativeness, the expression of architecture is probably the most sensitive measure of a civilization's pressures.

It not only must satisfy the requirements of most other forms of art, but it must also maintain its very thread of existence, utilitarianism. Without this, architecture falls into a sculptural classification. Architecture is also far more sensitive to the influence of an economy than any other form of artistic expression.

Then what is architecture of today reflecting? It logically follows that it reflects our society and its basic economy. Our society is fundamentally based on our economic system, which affects our social concepts and in turn our cultural efforts. Because of the nature of our capitalistic society today, we are rapidly approaching a point wherein great culture cannot effectively result from the social structure. Herein lies the major weakness of our society as it is expressed in architectural terms today.

The nature of twentieth century capitalism is different from the capitalistic period which reached its peak in the nineteenth century. Capitalism today, by virtue of the advancing socialistic developments (such as public education, postal systems, social security programs, etc., in our country), and by taxing systems brought about by the eruption of events of the first half of the twentieth century, is no longer an *individual* matter, but rather a *corporate* one. The day of the individual fortune wanes and is being replaced by group control of wealth.

The significance of this lies in the relation of culture to wealth. With the possible exception of Greece, no great culture has developed without the preliminary development of wealth. While the wealth may be expressed in political power or manpower (as was the case in ancient Egypt and Rome), it was nevertheless a prerequisite. The Renaissance culture was produced from the great wealth resulting from the fifteenth, sixteenth and seventeenth centuries of exploration, discovery and production. Nineteenth century capitalism—in our country the age of the "Captains of Industry"—generally began with this age of discovery which returned immense wealth to Europe, stimulating over-all economic development.

After wealth came aristocracy—a few generations later, for the money-making generations usually have little concern for cultural activity—and with an aristocratic society came the first evidence of renewed cultural development, a pattern which is still in evidence, although presently expressed in different terms.

But the fact that wealth in our country is becoming less and less individual, and more and

more in control of giant impersonal organizations, indicates that future generations will neither possess the means nor the desire to aid the cultural development that might eventually lead to an effective civilization.

The Inland Steel Building most effectively expresses the theories and wealth of the "collective" capitalism of our country today. Great minds can be brought to such capitalism, but "collective" capitalism in itself cannot produce great minds in return. Such buildings as the Inland Steel Building are very fine pieces of work, their basic faults being fundamentally in their conceptual roots. Because of the wide latitude of artistic expression, they have much to offer our culture, but certainly not as an ultimate contemporary expression of American economy and society, as is so often expressed. A more tragic reason for the detour of American architecture is the campaign against the individual expression of man by the social momentum of conformity. The Inland Steel Building expresses conformity to a superb degree. The surge toward the condemnation of the freedom of the mind and individual expression in all fields has had a tremendous influence on architecture. The major clients, so closely related to the political and economic scene, are unaccustomed to the rare air of non-conformity which sustains individual expression. Keeping up with the Joneses, plus a little, is about all that remains of the virile, sturdy, individualistic spirit from which the strength and growth of this nation emanated.

There is a widening gulf between American architecture and man. The essential contact is being lost; the human as an individual becoming less important in architecture. The business function has replaced the humanistic one. Evidences of this are also found in many of the contemporary expressions of art, literature and music.

The average architect today has a vast guilt complex in that while recognizing his traditional artistic responsibilities, he justifies (and admits) crass mediocrity on economic, political or social grounds. American architecture today has become the weakest expression of all our creative arts.

The problem with which we are confronted is of such magnitude that there can be no precise solution. The solution must be in the educative processes of our country which certainly must include the education of the giant corporations and economy controlling groups to their obligations and responsibilities over and above waving the flag of patriotism and making better bombs

to protect us and bigger cars to bankrupt us. The fundamental solution is, as it always will be, the determining of a system of values, and this will not only be an individual thing, but also a development of the people, even perhaps the development of an educational aristocracy.

All creative people have prime responsibility toward this solution, but the greatest responsibility of all must rest on the architectural profession, both practicing and educational, for these are the creative people who deal with, work with, and cope with the building power of our wealth today. So far, they have for the most part failed. There is plenty of architectural talent, but most is buried in large organizations, small cities, and in some educational institutions.

Briefly, it would seem that our solutions must depend upon three general conditions, and that through these perhaps may be created the foundation of the architectural contribution to the American civilization:

1 The spirit of man as an individual must be recaptured and expressed in terms of our times. Only the creative architect-artist accomplishes this.

2 Public recognition of the creative arts through emphasis in education, social and political action.

3 The resistance to conformity for conformity's sake, the avoidance of non-conformity for non-conformity's sake, and the fortitude to stand for honest individualism and expression.

To sum up: Architectural expression in this country will be fundamentally influenced by the major works of building. These works will be financed generally by those giant organizations who must eventually understand that beauty and good architecture are good and profitable business.

It is indeed tragic that the Federal government, the largest of all organizations, is also one of the most backward in the promotion of a culture which it is dedicated to develop. The recent foreign building program for the State Department is encouraging, but so small an effort in the over-all picture.

The intermediary is the architect. It is he who must comprehend the functions of collective capitalism and yet maintain a detachment from this source of livelihood in order to approach his problem with the artistic and spiritual aspects of a growing culture which may, with conscientiousness, intelligence and a little luck, lead eventually to a genuine civilization. ▲

A REPORT ON
THE MIT SEMINAR:

Theory and Criticism in Architecture and City Planning

by Sibyl Moholy-Nagy

Associate Professor of Architecture,

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► For a week in July the Massachusetts Institute of Technology offered a seminar on "Theory and Criticism in Architecture and City Planning," which had been planned and was conducted by Albert Bush-Brown, Professor of History and Theory in MIT's School of Architecture. The roster of the participants furnished persuasive proof of the interest among practicing architects for a closer contact with both teachers and planners.

Of the fifty-two participants, nineteen were architects, five were professional planners, twenty-three were teachers of architecture, four represented the *Architectural Forum*, *Progressive Architecture* and *The Canadian Architect*—and the unclassifiable John Osman, Director of the Fund for Adult Education. They came from as far as Korea and The University of California, and there was a strong contingent from Canada—ten participants—led by the distinguished Dean of the School of Architecture at the University of Winnipeg.

This breakdown indicates that Professor Bush-Brown has conceived of an idea which should be developed into an established summer event because so many mature and recognized personalities in the architectural field found it worthwhile to interrupt their summer vacations, journey all the way to Cambridge, and pay the unreasonably high participation fee.

Being the first enterprise of this kind, there were naturally many rough spots, both in the program and in its execution; and it might be permissible to point these out in the following brief report so that future seminars might improve on this initial experiment.

The keynote speech was delivered by Paul Rudolph, Dean of the School of Architecture at Yale University. His theme "Measures of Architecture," was slow in crystallizing. Once it got under way it offered the curious experience of hearing a practicing architect denounce historians as useless to current building problems on the one hand, and a teacher quote page after page from Alberti and Wittkower in support of Renaissance theory of design, on the other.

Robert C. Wood, Professor of Sociology at MIT, followed in the afternoon with "Society and Architecture," analyzing in an astonishing feat of two and a half hours of fluent speech without a single lecture note, the formation and status of suburban communities and their attitude toward physical and social environment. In spite of the title there was no direct connection with architecture except by implication. Brilliant as Mr. Wood's

analysis was, it fell into the characteristic pattern of Sociology and Psychology—pure analysis of the depersonalized, decentralized, sterile community of today, free of any conclusions or criticisms.

In the evening Martin Hoppenfeld, Civic Designer for the National Capital Planning Commission in Washington, spoke on "Federal Patronage of Art." Confining his definition of art to architectural design, he pleaded in general for a conscious design collaboration of planner and architect toward a meaningful urban form; and specifically for a completely new attitude toward the national capital and its official architecture. Since any symbolic meaning as a national image is lacking, most new Federal buildings look like the Lincoln Memorial with windows. It should become the special professional concern of the best among planners and architects to influence the future course of Federal building policy. His lack of a definition of an image for a new government architecture, and apathy and resignation among the audience concerning any influence in Washington, made this meeting also inconclusive.

The first day of the seminar was now over. The average duration of each of the three sessions had been two and a half hours, meaning that almost eight hours of listening had been and would be the daily schedule. It was clear from this moment onward that the gravest shortcoming of the whole course was an embarrassment of riches: Too much was offered by way of passive listening, and too little time was permitted to get a distinguished group together on specific critical discussions.

In the following four days there were twelve more scheduled presentations, among them a brilliantly conducted and highly informative tour of Harvard by Albert Bush-Brown; an architectural tour of the Wellesley and Brandeis campuses, a presentation of three architectural projects from the master-of-architecture class at MIT, and, perhaps most rewarding, a detailed and excellently illustrated presentation of projects and theories by Minoru Yamasaki, followed on the same day by an even more detailed, more profusely documented presentation of current projects by Walter Netsch, partner of Skidmore, Owings and Merrill in Chicago.

In between were three-hour long theoretical expositions: "The Urban Landscape" by Gyorgy Kepes, which seemed at least to this listener, almost totally incomprehensible; a highly abstract, dense philosophical tour de force by Bush-Brown, "Formal Determinants"; Kevin Lynch in a competent and concise analysis, "Measures of a City,"

and an embarrassingly fatuous chat by Russell Lynes on "Journalism." It all was wound up at a final banquet by John E. Burchard, Dean of Humanities at MIT, who started with a valiant and witty defense of architectural critics, pointing out that in our century Mumford, Hitchcock and Giedion have undoubtedly influenced architectural developments; but letting down his captivated audience by a subsequent slide marathon, showing the screen with three hundred years of good and bad architecture, geared to the theme "America, I love you!"

The fact that the consensus among the participants was high praise for the honest self-presentation of Yamasaki and Netsch, and for Bush-Brown's well-prepared Harvard tour, indicated where the seminar fell far short of expectations. It did not allow for discussions in the form in which the participants had expected them. We were all well aware of the fact that only such a professional conclave as this seminar can offer uninhibited opinions. The professional journals and big conventions can and will not take this chance. There was strong regret that the tours of Wellesley and Brandeis were not followed up with a full session of criticism; that the immediate architectural experience was diluted with much too much peripheral verbalization and philosophy. The general mood of the participants was such that the chairman would not have had to fear any personal resentments. They all had come expecting to be confronted with an opposition of architectural values, a conflict of problems in a vastly complicated professional field which would be debated, attacked and defended with the loyalty of deep convictions. Looking back, one feels with infinite regret that this opportunity was there and had not been exploited.

If MIT should offer this type of seminar again on "Theory and Criticism in Architecture and Planning," it is fervently hoped that on five days no more than five personalities will offer five basic problems and viewpoints, and that each of these presentations will be followed up the same day by an analytical discussion with the participants. If the equivalents of, say, Netsch and Yamasaki as prominent practicing designers with opposite viewpoints; Lynch and Hoppenfeld as planners working in the field and having definite theories; and Bush-Brown, as teacher and philosopher of architecture, could be persuaded to donate a week of their time for the benefit of the profession, the MIT summer seminar (perhaps in closer conjunction with the summer design class) could become an important catalyst for future developments. □

Architects' and Engineers' Third Party Negligence Liability

The Fall of the House of Privity

by George M. White, AIA

Mr. White, a member of the Cleveland Chapter, is studying law at Western Reserve University

Mr. White's article on Architects' and Engineers' Third Party Liability is of real interest to Architects. When accidents occur, the lawyers for the injured party are quite naturally inclined to include in any suit everybody who might be in some way responsible. While the Contractor will generally be the principal defendant, the Architect or Engineer may very likely be included and may be involved in the necessity of defending himself in Court.

Reference is made to "the usual contractual provision that the Architect shall act as an Arbitrator in disputes between the Contractor and the Owner." I would phrase that idea a little differently but with not very much actual difference. The Architect makes decisions on all claims of either Owner or Contractor. Obviously this will be after a review of the facts with both parties. Thereafter, if either party refuses to accept the Architect's decision, the dispute is referred to Arbitration according to a standard procedure.

Architects would be well advised to read and ponder the following article by Mr. White.

WILLIAM STANLEY PARKER, FAIA

Backdrop to Liability

Almost 5,000 years ago, under the ancient Babylonian Code of Hammurabi, the forerunner of the Roman *lex talonis* was in vogue. Justice for builders and designers was swift. As a result of the collapse of a building, if a child died, the son of the builder was killed in return; if an arm was lost by a third person, the builder's arm was removed; if a death occurred the builder himself was put to death.¹

The passing of centuries brought a more dignified and less stringent attitude toward punishment, until under early English law, it became necessary for a contractual relationship to exist between the architect and the owner in order for liability to be incurred by the architect. Today, we have risen from the launching pad of negligence and

are again approaching the orbit of the strict liability of Hammurabi, not with retaliatory punishment, but rather with an economic penalty, justification for which is usually made on the basis of the doctrine of spreading the risk.

The Role of the Architect and Engineer

An architect is one who plans and designs buildings and who usually supervises their erection. Virtually all jurisdictions have licensing statutes which require that persons who hold themselves out to be professional architects meet certain standards of competence by fulfilling specific requisites prior to the passing of an examination. The engineers with whom we are concerned here are those engineers who engage in activities similar to

architects, and hence the terms architect and engineer will be used interchangeably.

In examining the legal status of an architect, we find that he wears a coat of many colors. Because of his contract with an owner, we find a principal-agent relationship in existence.² With the exception of the setting out of specific goals that the building program must meet, the owner exerts virtually no control over the architect in the execution of plans and specifications; the architect is thus ordinarily thought of as an independent contractor with respect to the preparation of these documents.³

In the supervision of the construction, however, he is an agent of the owner, with certain limitations. Some of these may be provided by contract and some may be

provided by the common law. A supervising architect may not substitute a sub-contractor, for example, nor does he have authority over the employment or discharge of workmen.⁴ He may, however, direct the manner of work, reject unfit materials, and determine what brands of materials shall be used where the specifications are ambiguous.⁵ If the architect should exceed the scope of his authority, his acts may be ratified by his employer as in other cases of agency.⁶

Because of the usual contractual provision that the architect shall act as an arbitrator in disputes between the contractor and the owner, the architect under those conditions assumes a quasi-judicial capacity.⁷ Because of this capacity when acting as an arbitrator, his immunity has been corroborated in many cases.⁸ A number of English cases at the turn of the century followed the general rule that the architect or engineer is the agent and representative of the building owner.⁹ Later cases, however, recognized that the architect and the engineer have both a judicial and a ministerial function. This position was then taken that an architect in the role of an arbitrator or quasi-arbitrator is only liable when fraudulent intention is proved, as distinct from negligence alone.¹⁰ Modern courts have held that the architect is in a position where his role as the owner's agent is not adequate to describe the authority with which he is vested.¹¹

It is apparent that there are many areas in the course of carrying on a building operation wherein the architect or the engineer is neither agent nor independent contractor nor quasi-arbitrator, but part of each. Courts over the years have had a great deal of difficulty in drawing a fine line of distinction between these various roles. The problem becomes more acute under today's extension of professional liability.¹²

General Tort Law

Modern tort law concerning liability to third persons not parties to a contract finds its roots in *Winterbottom v. Wright*.¹³ The rule of that case was held for many years to mean that there was no liability of a contracting party to one with whom he was not in privity. A gradual erosion of that rule began to take place shortly after its incep-

tion. Exceptions where liability was found included the seller of chattels who knew that the chattel was dangerous for its intended use, and also instances where the chattel was of a type inherently dangerous to human safety.¹⁴ The famous *MacPherson v. Buick Motor Co.*¹⁵ case put the quietus on the *Winterbottom* rule, at least insofar as chattels were concerned. It was held, in effect, that there was a responsibility on the part of the manufacturer of chattels to the ultimate consumer which rested not upon the contract, but upon the relation arising from the purchase and the foreseeability of harm if proper care in the manufacture were not used.

The present-day tendency is to carry the liability of the manufacturer of chattels into the area of strict liability and make him, in effect, a guarantor of his products even though he exercises all reasonable care in their manufacture. All indications are that this extension of liability to third persons will continue insofar as chattels are concerned.¹⁶

While the liability of other contractors to third parties has not advanced either as rapidly or as extensively as that of suppliers of chattels, the forces which have held the idea of privity seem to be diminishing gradually under the counterattack of social improvement. For contracts other than in the building industry, many courts have held that where there is misperformance of the contract, those who furnish labor or services have an obligation of reasonable care for the benefit of third persons who might be endangered as a result of the misperformance.¹⁷

Liability of the building contractor with respect to third persons has been difficult to fix in past years. Many recent cases, however, have made the distinction between buildings and chattels appear rather flimsy.¹⁸ Thus having extended liability to third persons first in the field of suppliers of chattels, next in the field of other contractors, then in the field of some professionals, and finally in the field of building contractors, the next logical step is being taken in the field of architects and engineers.

Liability and Riposte

Because an architect's relationship with a construction operation is born out of a contract it is quite

natural to find that his liability for negligence has grown out of the same contract. On that basis it is necessary to examine the architect's duties resulting from his agreement with the owner to design a building and to supervise the construction, when the latter is required.

As in other professions, the architect has a duty to meet professional standards of conduct. He implies that he possesses the skill and ability, including taste, sufficient to enable him to perform the required services reasonably well, and that he will exercise his skill, ability, judgment and taste reasonably and without neglect.¹⁹ The architect has a duty to provide for reasonable strength of the structure, proper materials, character of the construction, and he must keep abreast of the improvements in the industry.²⁰ The owner, as against the architect, may rely upon the sufficiency of the construction of the building when it is certified by the architect to have been completed in accordance with the plans.

An architect's duty to direct and inspect construction work carries with it the duty to condemn work which he considers unfit.²¹ He does not, however, in the absence of a special agreement, imply or guarantee a perfect plan or completely satisfactory results. He is liable only for failure to exercise reasonable care and skill.²² There is no implied promise that miscalculations may not occur and while the architect

¹ 2 ENCYCLOPAEDIA BRITANNICA 862, 864 (1958).

² 3 AM. JUR. Architects § 5 (1936). 6 C.J.S. Architects § 7 (1937).

³ *Ibid.*

⁴ *Ibid.*

⁵ *Ibid.*

⁶ *Ibid.*

⁷ 3 AM. JUR. Architects § 19 (1936).

⁸ Annot., 43 A.L.R.2d 1227 (1955).

⁹ 103 L.T. 168 (1897).

¹⁰ See *Stevenson v. Watson*, 40 L.T.R. (N.S.) 485 (1879); 71 Sol. J. 745 (1927); 71 Sol. J. 935 (1927).

¹¹ Witherspoon, *When is an Architect Liable*, 31 N.D.L. REV. 54 (1955).

¹² Banks, *Damages for Breach of Contracts of Service*, 10 INDUS. L. REV. 97 (1955); Annot., 25 A.L.R.2d 1088 (1955).

¹³ 10 Mees & W. 109 (1842).

¹⁴ *Hussey v. J.I. Case Threshing Mach. Co.*, 120 Fed. 865 (8th Cir. 1903); *Lewis v. Terry*, 111 Cal. 39, 43 Pac. 398 (1896); *Schubert v. J.R. Clark Co.*, 49 Minn. 331, 51 N.W. 1103 (1892).

¹⁵ 217 N.Y. 382, 111 N.E. 1050 (1916).

¹⁶ PROSSER, TORTS 507 (2d ed. 1955).

¹⁷ *Id.* at 514.

¹⁸ *Id.* at 518.

¹⁹ 3 AM. JUR. Architects § 7 (1936).

²⁰ *Ibid.*

²¹ 6 C.J.S. Architects § 17 (1937).

²² 3 AM. JUR. Architects § 7 (1936).

implies the use of ordinary skill, he is not an insurer of the accuracy and perfection of his work. He does not profess that his plans will be absolutely perfect. Neither does his duty extend to compliance with statutory regulations for the protection of workmen, although the architect himself is charged with knowledge of the statutory regulations and restrictions governing the erection and use of the building.²³

Even the owner's approval of the architect's plans before they were used in construction has been held not to excuse the architect from the exercise of ordinary and reasonable care in the designing and formulating of his plans.²⁴ Neither does the failure of the contractor to check the plans before using them excuse the architect from the consequences of an error in the plans.²⁵

Although the architect's duties are spoken of in broad terms, they are in reality detailed and varied in their scope. An architect may design not only the exterior of a building but the structural members, the heating, ventilating, air-conditioning, electrical equipment and general mechanical design as well; in addition, he may assist in the letting of the building contracts; he may supervise the construction; he may issue certificates of payment, including a final certificate declaring the building complete according to the plans and specifications. He thus becomes involved in relationships with many and various people in such a manner that it is virtually impossible for him not to violate some measure of an architect's duties, depending upon his interpretation of the word "reasonable." It is probable that because of this tremendously broad scope of contact resulting from the architect's original contract, there has been very little attempt until recently to extend the liability of the architect beyond the parties privy to that contract.

Privity of Contract

Historically, of course, privity of contract was required before a breach of the architect's duty would create liability to anyone. Even though an architect is liable to the owner for damages resulting from the architect's negligence, he is not liable where the owner deals with the contractor independently.²⁶ In

absence of collusion or fraud, there are many cases that have held that a third party not privy to the contract cannot rely upon the contractor's negligent errors or omissions causing damage, in order to hold a party to the contract liable.²⁷ Cases involving property owners, contractors and architects, and concerning the issuance of certificates of payment by the architect where these certificates were either negligently or improperly issued to someone's damage, indicate that where the architect is not immune as a quasi-arbitrator, he is liable only to the owner.²⁸ The classic case of *Derry v. Peek*²⁹ has been used for many years to show that where there is no fraud, contracting parties are not liable to third persons who are not privy to the contract. The cases are legion that have followed that doctrine; the architect has found immunity in his share.³⁰ In the well-known case of *Geare v. Sturgis*³¹ in which a building collapsed and killed a third person, the architect and the contractor were held not liable on the ground that no privity of contract existed between them and the person killed. One additional influential factor was that the building had been accepted by the owner and was under the owner's maintenance and control. In *Curtin v. Summerset*,³² the court said the consequences of holding opposite to the rule requiring privity of contract would be far reaching.

If one who erects a house or builds a bridge . . . owes a duty to the whole world that his work . . . contains no hidden defects, it is difficult to measure the extent of his responsibility and no prudent man would engage in such occupations upon such conditions.³³

There are a number of cases involving an architect's contractual liability to the owner that have indicated that an owner does not waive his rights against the architect as a result of having accepted a building as a completed structure.³⁴

Overthrow of Privity

In all natural evolution the extension of the effects of some particular individual change in a chain of events can be almost limitless. Thus it is that the effects of *Glanzer v. Shepard*,³⁵ in which a weigher of

beans was found liable to a buyer despite the absence of a contractual relationship between them, were felt throughout the genes of liability to third persons in all areas; its effect is even now being visited upon architects and engineers. The court held that no privity of contract is necessary for liability. The principle was adopted that one who follows a common calling, and who serves another, may come under a duty to a second party, even though a third party may give the order or make payment.

With that beginning, cases arose which attempted to find liability to third persons. A pattern in the cases began to appear indicating an awareness that there is no visible reason for the distinction between the liability of one who supplies a chattel and one who erects a structure.³⁶ A number of cases have reached this conclusion.³⁷ A recent case, *Inman v. Binghamton Housing Authority*,³⁸ spells out the prevailing attitude. While holding that the architect was not liable, the court said that the doctrine that holds a manufacturer of an inherently dangerous chattel, defectively made, liable to remote users, is applicable to those who plan and put up structures on real property.

²³ 6 C.J.S. Architects § 17 (1937).

²⁴ *Allied Enterprises, Inc. v. Brooks*, 93 S.E.2d 392 (Ga. 1956); *Annot.*, 25 A.L.R.2d 1088 (1955).

²⁵ *Ibid.*

²⁶ 3 OHIO JUR. Architects § 3 (1922); 6 C.J.S. Architects § 19 (1937).

²⁷ *PROSSER, TORTS* 514 (2d ed. 1955); *Annot.*, 34 A.L.R. 67 (1925).

²⁸ *Annot.*, 43 A.L.R.2d 1227 (1955).

²⁹ 14 App. Cas. 337 (1889).

³⁰ *May v. Howell*, 32 Del. 221, 121 Atl. 650 (1923); 76 sol. J. 336 (1932); 76 sol. J. 666 (1932); 76 sol. J. 829 (1932); 73 sol. J. 744 (1929); 164 L.T. 78-9 (1927); see also nn. 11 & 27 *supra*.

³¹ 14 F.2d 256 (D.C. Cir. 1926).

³² 140 Pa. 70, 21 Atl. 244 (1891).

³³ *Id.* at 80, 21 Atl. at 245; see also *City of Daytona Beach v. Gannett*, 253 F.2d 771 (5th Cir. 1958); *Pancoast v. Russell*, 148 Cal. App.2d 906, 307 P.2d 719 (1957); *Bay Shore Development Co. v. Bonfoey*, 75 Fla. 455, 78 So. 507 (1918); *City of Carrollton v. Ayers*, 211 Ga. 728, 88 S.E.2d 368 (1955); *State ex rel. National Surety Corp. v. Malvanev*, 221 Miss. 190, 72 So.2d 424 (1954); *School District v. Josenhans*, 88 Wash. 624, 153 Pac. 326 (1915).

³⁴ *Bream v. Laird*, 230 La. 221, 88 So.2d 33 (1956); *Galvin v. Keane*, 100 Ohio App. 100, 135 N.E.2d 769 (1954). For additional cases involving privity in architect's contracts, see *Spencer v. Beatty Safway Scaffold Co.*, 141 Cal. App.2d 875, 297 P.2d 746 (1956); *Palmer v. Brown*, 127 Cal. App.2d 44, 273 P.2d 306 (1954); *Smith v. Goff*, 325 P.2d 1061 (Okla. 1958); *White v. Pallay*, 119 Ore. 97, 247 Pac. 316 (1926); *Hill v. Polar Pantries*, 219 S.C. 263, 64 S.E.2d 885 (1951); *Avent v. Proffitt*, 109 S.C. 48, 95 S.E. 134 (1918).

A Pennsylvania court said:

There is no reason to believe that the law governing liabilities should be, or is, in any way different where real structures are involved instead of chattels. The principle inherent in the *MacPherson v. Buick Motor Co.* case and those that have followed it cannot be made to depend upon the merely technical distinction between a chattel and a structure built upon the land.⁴³

In cases dealing with the manufacturer's liability to remote users, the stress has always been upon the duty of guarding against hidden defects and of giving notice of concealed dangers. In the *Inman* case, because there was no suggestion that the structure possessed a latent defect or an unknown danger, liability of the architect was not found. Different pleadings might have yielded the opposite result.

More recently in *United States v. Rogers & Rogers*,⁴⁴ a contractor sued the architect for negligence in supervision in that the architect allegedly negligently construed and interpreted reports of tests on concrete and he then negligently approved structures made of that concrete when he should have known that the specifications were not being met. The court stated that California courts no longer followed the common law rule that privity of contract must exist in order for negligent performance of the contractual duty to give rise to liability for damage to an intangible economic interest. Quoting from another case,⁴⁵ the court said:

The determination whether in a specific case the defendant will be liable to a third person not in privity is a matter of policy and involves the balancing of various factors among which are the extent to which the transaction was intended to affect the plaintiff, foreseeability of harm to him, the degree of certainty that the plaintiff suffered injury, closeness of the connection between the defendant's conduct to injuries suffered, the moral blame attached to the defendant's conduct and the policy of preventing future harm.

The court in the *Rogers* case also said:

Considerations of reason and policy impel the conclusion that the position and authority of the supervising architect are such that he ought to labor under the duty to the prime contractor to supervise the project with due care under the circumstances, even though his sole contractual relationship is with the owner. . . . The power of the architect to stop the work alone is tantamount to a power of economic life or death over the contractor. It is only just that such authority exercised in such a relationship carry commensurate legal responsibility.

The architect's status as an independent contractor would bring him under this now generally accepted doctrine: If a thing constructed is inherently or eminently dangerous, or if the contractor's act results in creating a danger, the probable consequences of which would be injury to persons, other than the owner, who may come in contact with the structure, the liability of the contractor for the consequences of his negligent act is not limited to the owner but extends as well to any third person not a trespasser who receives injury or damage as a direct result of such act.⁴⁶

In *Day v. National-U. S. Radiator Corp.*,⁴⁷ an architect was held liable in damages for the fatal injury of a workman who was killed as a result of a boiler explosion. It was alleged that the explosion occurred because the architect had improperly and negligently supervised the job. Although it was conceded that the subcontractor was guilty of gross negligence in the installation of the hot water system to which the boiler was attached, the architect was found liable because he had not noted the improper connection during his supervisory inspections.

Of all the architect's duties, that portion which involves supervision is probably the least understood by courts and attorneys, and is also the area out of which most litigation will arise. This is the grey area of judgment, as exemplified by the *National-US Radiator* case. How closely may an architect be expected to inspect the work in progress? What are the physical tolerances that can be used as a measure of his legal duty? The necessity for each

case to be decided on the basis of its own facts is well recognized; there are, however, some generalizations that can be made with regard to the term "supervision."

As in most areas of misunderstanding, the roots of the weed are firmly embedded in the definitions and accepted uses of the word. Supervision, as is usually explained in a cursory fashion in the owner-architect contract, does not mean daily superintendence of the work. Where the latter is required, special provisions are made for a paid representative of the owner to be present on the job site during all working hours. In the ordinary instance, however, no such elaborate arrangements are made. The architect stops at the job site at various intervals, the frequency of which is determined both by the contractor's need for interpretation of the plans and specifications, and the owner's need for his interests to be protected in that the plans and specifications must be accurately followed. These job visits may occur each day at one stage of the construction, and each week at another stage.

Who can say what error or omission by the contractor might cause future injury to a third party and which a reasonable architect might miss, even with daily inspections? Can the architect be held liable for latent defects which cause injury and which he was not astute enough to be able to predict during his supervisory visits? Clearly, these

⁴³ 233 N.Y. 236 135 N.E. 275 (1922).

⁴⁴ PROSSER, TORTS 517 (2d ed. 1955).

⁴⁵ Hanna v. Fletcher, 231 F.2d 469 (D.C. Cir. 1956), cert. denied, Gichner Iron Work, Inc. v. Hanna, 351 U.S. 989 (1956); Moran v. Pittsburgh-Des Moines Steel Co., 166 F.2d 908 (3d Cir. 1948); Hale v. Depoali, 33 Cal.2d 228, 201 P.2d 1 (1948); DelGaudio v. Ingerson, 142 Conn. 564, 115 A.2d 665 (1955); Hunter v. Quality Homes, 45 Del. 100, 68 A.2d 620 (1949); Colbert v. Holland Furnace Co., 333 Ill. 78, 164 N.E. 162 (1928); Berg v. Otis Elevator Co., 64 Utah 518, 231 Pac. 832 (1924); Colton v. Foulkes, 259 Wis. 142, 47 N.W.2d 901 (1951); see also RESTATEMENT, TORTS § 385 (1934); 2 HARPER AND JAMES, THE LAW OF TORTS 1556 (1956); Annot., 13 A.L.R.2d 191 (1955).

⁴⁶ 3 N.Y.2d 137, 143 N.E.2d 895 (1957).

⁴⁷ Foley v. Pittsburgh-Des Moines Co., 363 Pa. 1, 34, 68 A.2d 517, 533 (1949).

⁴⁸ 161 F. Supp. 132 (S.D. Cal. 1958).

⁴⁹ Biakanja v. Irving, 49 Cal.2d 647, 650, 320 P.2d 16, 19 (1958); see Peck v. Richmond Elementary School District, 326 P.2d 860 (Cal. Dist. Ct. App. 1958); Hoehn v. Minnesota Mining & Mfg. Co., 248 Minn. 162, 79 N.W.2d 19 (1956); Dow v. Holly Mfg. Co., 49 Cal.2d 720, 321 P.2d 736 (1958).

⁵⁰ Annot., 13 A.L.R.2d 233 (1955).

⁵¹ No. 59, 697, Div. D., 19th Dist. Ct., La., in Stearman, *Court Rulings Extend Engineers' Liabilities*, AMERICAN ENGINEER, Feb. 1959, p. 11.

are questions that must be answered by the courts in the future. Some pattern may have begun to take shape, but it is unlikely that attorneys will have an established guide in this area of "supervision" for some time to come.

Professional Liability Insurance

A further development in this now rapidly increasing extension of architects' and engineers' liability to third persons is the initiative taken by the professional societies in making insurance available for the protection of architects and engineers. Both The American Institute of Architects and the National Society of Professional Engineers have arranged for insurance policies prepared especially for these two professions. Standing committees of these societies engaged in a comprehensive study of professional liability insurance as it might apply to architects and to engineers in private practice. These studies were carried out over a period of several years, culminating in 1957 with a notification of each member of the availability of professional liability insurance and the reasons for its need. The following statement was made by the chairman of the AIA professional liability committee:⁴⁴

... the committee set about to develop a policy form which would provide the maximum protection for the architectural and engineering professions ... when the new policy was finally written it accurately reflected the wishes of the committee and in many parts the wording suggested by the committee.

Similar statements by officials of the NSPE complete the professional sanction.

The coverage in these policies is not limited to bodily injury or property damage caused by the accident; full coverage is provided for expenses of defendants in addition to the limit of indemnity; coverage is available for past errors, omissions and negligent acts.⁴⁵ Very likely courts and juries will be influenced by the knowledge that this insurance exists, and in line with the general policy of spreading the financial burden for injury over more people, it would seem that third party liability suits will increase in the area of professional engineering and architecture just as it has in other areas.

Future Trends

The tremendous increase in population of the United States in the past several years and the promise of its continued increase in the future is indicative of an increasing amount of construction work that will be performed. The construction industry has resisted automation rather effectively and will probably continue to do so, thus indicating that the number of construction employees will increase rather than decrease. With greater numbers of architects and engineers, there will undoubtedly be more and more possibilities for negligence to occur. The effect of the licensing laws on the competence of the architects and engineers will, of course, be felt; it is folly, however, to expect that negligence can be reduced simply on the basis of professional people having met a particular minimum standard required by a license law, even though that standard be raised.

When an injury does occur, it seems proper that even though it arises out of an error in judgement rather than negligence, the one who is injured should have redress against the one whose error in judgement caused the injury. This general trend must be accepted in a world in which opposing ideologies are vying for leadership in giving benefits to the citizenry. It must be expected that private enterprise economy that is seeking ways to meet the collectivist challenge, will indeed spread the financial burden and the risk so that individual standards may be elevated without the onerous raising of arms in supplication to a paternal government. The method of equalizing the burden through insurance seems to be working well in that regard.

It is interesting to note that the liability of other professional people to third persons has long since been recognized. The accountants, for example, whose financial statements are generally used by third persons, have been in third party liability litigation over many years.⁴⁶ The general rule is that third parties may recover from public accountants on the ground of fraud but not on the ground of negligence. The fact that third party losses resulting from auditors' negligence are normally of a financial nature seems to have some influence on the decisions. In the case of an

architect or an engineer where personal injury and death can occur as a result of the architect's negligence, it seems the stringency should have been much greater and liability should have arisen much sooner.

A further factor worthy of consideration is the inability of the architect to once again become the Master Builder of the middle ages. The construction of a large modern building reflects so many facets of technology that the architect, who must of necessity become involved in them, finds it increasingly difficult if not a virtual impossibility to maintain competence in them all. The architect hires specialists in these areas—engineers for structural, acoustical and mechanical design—but even though the responsibility might extend to these sub-agents, the architect remains the supervisor and must of necessity protect himself accordingly. Further, this everwidening extension of the architect's duties indicates the increased possibilities in the future of an error in judgement which might result in injury to a workman, or an occupant of the building.

The factors all point to an assuredly increasing tendency to find architects and engineers liable for injuries to third parties resulting from professional negligence.

As an epilogue to the drama, it seems discreet to consider the possibility of a lowering of professional standards through the medium of increased liability. Time was when a professional man was thought of not only as a master in his particular area of knowledge, but also as a man of stature to his clients and to the public in general. If he is to be held increasingly responsible for his errors in judgement, then the onetime exalted status of the professional man is reduced to that of any other business entity. Perhaps this is as it should be. It follows that those who lean toward the professions, whether they be doctors, lawyers, architects or others, should recognize a new tenet: The paths of professional glory lead but to liability. ▀

⁴⁴ Smay, *A New Look at Professional Liability Insurance*, Journal of The American Institute of Architects, Dec. 1957.

⁴⁵ See Professional Liability Policy Form, Continental Casualty Co., Chicago, Ill.

⁴⁶ Beaver, *The Auditor's Legal Liability to Third Parties*, 7 WEST. RES. L. REV. 145 (1956).

Why I Believe in the AIA

BY A. QUINCY JONES, JR., FAIA

The 1960 President of the Southern California Chapter reaffirms his faith in unified action in today's complex world and in the AIA. Adapted from the President's Address at the Inaugural Ball on January 15

► It is impossible to tell you what *will* be done during 1960. It is next to impossible to tell you what *can* be done. It occurs to me that it is more important to tell you what *I believe*—and *why*!

I believe architecture is an art, and that the architect has a responsibility to individual man and collective man. The architect has a responsibility in self and public education, in business, in legislative matters, in public relations, in self-discipline and in constructive communications. When thinking of these six responsibilities in relation to society, it is obviously impossible for the individual architect by himself to do what must be done.

I believe *this is the most important reason for the existence of The American Institute of Architects.*

Just as each of you realizes the importance of professional imagination in the conduct of his work as an architect, it is most important for the Institute to have and to execute a continuing communal imagination, an imagination directed to the good of society.

It has been said that the directors and chairmen of boards, the politicians, the administrators and most laymen do not have imagination. *I do not believe this is true.* It seems to me that most of them have a great deal of imagination, but that it is directed in a different way because of a different starting point.

Louis Sullivan, in one of my favorite architectural books, "Kindergarten Chats," has expressed this much better than I can. He describes how the

architect is not a surveyor, an engineer, a builder nor businessman. He is an *architect* and his true function is to interpret and to initiate. He goes on and says:

"I assume that other men than architects . . . interpret and initiate. But not one of them is expected to interpret the wants of people with the view to initiate buildings, hence the true function of the architect is to initiate such buildings as shall correspond to the real needs of the people."

Why is it important that there be imagination? Why is it important for architects to understand their profession as an art? The present-day scientific knowledges have created a civilization that is hungry for tranquillity. Progress in the sciences is such that the physical and mental tensions are growing at an accelerated rate. There is a lack of balance between our powers of thinking and our sense of feeling.

Unfortunately the demand for shaping the emotional life of the masses is essentially unrecognized. Emotional life is a function of environment. Environment is shaped by the four-dimensional art, *architecture*. Painting is a two-dimensional art, sculpture a three-dimensional art, but architecture has the three dimensions of sculpture with the added dimension of time. This dimension of time becomes important as a factor in the concept of any new architectural project, not only as a consideration as to how a building or community will physically weather, but what consideration should

be given as to flexibility and expandability in relation to the environment of any given time.

Flexibility and expandability are not used in the same context as applied to a client for a single project with only his own program in mind and with no particular concern for how time affects the entire community.

Maybe I can best illustrate what I mean by a comparison that does include the consideration of time and the increasing complexities of life.

Once there was a barn, and in the barn was a cow. Nearby stood a house, and in the house was a baby. Milk was taken from the cow by means of a now vanishing art—so to the bucket, to the bottle, to the baby in a direct production sequence of functional efficiency. The complete community was a barn and a house.

Today we still have the two principal characters in this story, the cow and the baby—but we have added many more. The manufacturer who makes the milking machine, the processor, the wholesaler, the retailer and the transporter; the chemist, the homogenizer, the pasteurizer, the certifier and the vitamin-enricher. All of these varied operations need the support of the bank, both to deposit profits and to borrow money to make more money—and finally the advertising agency to invent beguiling slogans and to design appetizing containers. We are suddenly confronted with a whole army of high-salaried milk-men engaged in a mighty effort to extract milk from the cow and get it to the baby. The community is no longer a house and a barn, a cow and a baby. It is now a metropolis, and the characters in our little story are only statistics.

Every activity of our lives has a parallel indicating increased complexity.

The communities and metropolitan areas that have been created to house these requirements may seem complicated, but they are simple compared to what they will be in the future. Now, it is the architect's place in our social structure to find the kind of flexibility and expandability in relation to time as it affects the environment of people. Every minute of our lives from infancy through adulthood is affected by architecture. We could have no greater responsibility.

There is no *unimportant* architecture. The barn, the tract house, the factory, the warehouse, and the service station are equally as important in our total environment as the museum, opera house, shopping center and church. This total responsibility cannot be met by an individual architect when he must face all of today's complexities of practice. The American Institute of Architects

through a joint effort by a great number of architects should be a device to make it possible for all of us to spend a larger proportion of our time practicing real architecture.

If I should pose the question: "Should the architect be the best possible business man and sublet design and technical skills?" There is no doubt that the answer would be negative. On the other hand, to the question: "Should the architect be the designer with the technical ability and sublet the business functions of a practice?" Most all of you would agree that this would be ideal. I believe that allotting a small portion of each member's time to some constructive function of the Institute would make it possible for all of us to practice architecture as we like to think of the practice of architecture.

It seems to me that mounting pressures often lead us to put emphasis in the wrong areas of practice. This reminds me of an anecdote. Recently I made a trip to Europe with a group of architects. While in Le Havre and after an afternoon of inspecting their reconstruction and new city plan, the local architect who was acting as our guide, reminded us that we were due at the city hall for a mayor's reception. On approaching the new city hall, we turned into a side street to use a secondary entrance. The guide said, "This building does have a main entrance, but it is so *main* that no one ever uses it."

The problem of proper emphasis is clear, but the solution may become confused when there is such an accelerated change in the patterns of our civilization.

If we are going to be architects and truly believe that architecture is an art and that architects and architecture can provide a better environment for people, we must find the device that will make it possible to expend the majority of our energies in architecture as an art. This device, if all of us want it to be, is The American Institute of Architects. The American Institute of Architects can be successful only through the activities of its various committees. Only a little bit can be done each year, so this activity has to be a continuing thing, year after year.

We stand at the beginning of the fourth year of the second century of The American Institute of Architects.

The Fabulous Fifties lie behind us. The Scientific Sixties, as prophesied, lie ahead. With *imagination*, both individual and collective, we may find our way.

I have told you what I believe—and why I believe in the AIA. □



From the Executive Director's Desk

► Quite convinced that someone who may have read my article on the Vice President and Mrs Nixon will find therein a partisan motive on my part, I wish to set the record straight. I am what might be called an ambulatory liberal. I have usually voted the Republican ticket, that is when I had a vote and lived in Pennsylvania, but I did not hesitate to vote for a Democrat if I thought him the better man. This heretical admission could readily bring the family wrath on my head, for my father, who died in 1915 a nineteenth century businessman, left two and only two admonitions to his sons; to-wit, never mortgage anything and always vote the Republican ticket. I am afraid that we have backslid on occasion—even some of my brothers have been temporarily disinherited for looking with active admiration in the enticing direction of liquidity, the Lateran and liberalism. That they were restored to favor is due to the singular devotion of brothers who acrimonious as their inter-fraternal quarrels may be would gird up as one when a brother's flank was threatened.

I might say, if it would be of any interest to the principal parties concerned and to the membership, I would gladly write an article on Mr Kennedy related to architecture were I conversant with Mr Kennedy's architectural interests and affiliations and had I ever had the pleasure of conversing with him—especially on architecture and construction. I have shaken hands with him and that is about all.

When I lived on the west side of Wisconsin Avenue in Georgetown I used to watch Senator Kennedy play softball on the public playground, a sport which he played with considerable enthusiasm and agility—though I am not one to judge his skill. I have met his attractive wife, but the member of the family that I know best is Mr Kennedy's mother-in-law, a very gracious and public-spirited lady of great intelligence, energy and initiative. I am afraid I cannot give Mr Kennedy equal time in this column for the simple reason I have not the material to permit me to do so. Possibly that will develop.

I had some hesitancy in allowing the article on Mr Nixon to be published, but my hesitation was brushed aside by the Editor who felt it was an article that would interest the membership. After all, it was about a prominent man and his interest in architecture.

I am afraid I cannot speak with any knowledge on the interest or affiliations in our profession of the Democratic nominee for the Vice Presidency. There are others who can, for I know he has worked closely with some architects. I think you are all well-acquainted with Mr Truman's interest in architecture although there was never any question as to where he stood in the matter of architectural design, progress or conviction and I understand that the same can be said for Franklin D. Roosevelt. The interest of a head of state in architecture is natural and one that should be encouraged.

In fact, I do not see how a head of state can avoid an interest in architecture. The recent Governor General of Canada, Mr Massey, was very close to the architectural profession, his own son being an architect. There is, I believe, a Massey medal awarded by the Royal Architects Institute of Canada. Once or twice we endeavored to have the Governor General appear on our Convention programs, for he is a gifted and brilliant speaker and would have been delighted to have addressed us on our own subject had protocol not prevented him from doing so.

History is replete with instances of the very vital and profound interest of heads of state in planning and in architecture. Mostly for the better, not always so.

Where on earth would architecture be had not emperors, kings and dictators openly and vigorously pursued their programs of construction always with the aid of the most competent architects of their countries.

Frequently heads of state were powerful influences in molding architectural taste and in establishing the reputation of their architects. I am afraid we are one of the few countries where each

and every head of state has not pursued a construction program and has not injected a considerable amount of his own personality and taste into the product. Save for such exceptional people as Roosevelt and Truman, our Presidents for the most part (except for Thomas Jefferson) never expressed any deep conviction on architecture or pursued planning and construction programs other than as issues necessary to the progress of the nation.

Of course there have been baleful influences; Adolph Hitler, a frustrated painter and architect, did have a very definite impact on architectural style. An impact which, one regrets to report, extended beyond the confines even of his country as he expanded it, for there are examples in our own country of architecture which have a definite reflection of the severe Nazi style. It is indeed regrettable to find unmistakable reflections of the harsh Nazi philosophy in some of our governmental buildings designed, I am happy to say, before World War II.

I am afraid the acceptance of the Hitlerian architectural philosophy is an evidence of our failure to have kept our official architecture always to the fore. In this respect we have not kept the pace set by Thomas Jefferson, a pace which Latrobe, Walter and others maintained for many a year.

The last of the 19th century and the first part of this century let us down almost ignominiously with the "pompier" pomposites that have until recently been accepted as a criterion for official architecture.

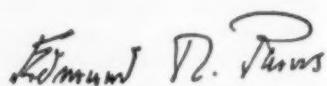
Now, thanks to the enlightened and professional encouragement of our Department of State, the Public Building Service of the General Services Administration, the Post Office Department and other major and even lesser Federal agencies we stand a chance of evolving an epochal architecture which will let future generations know that this country was capable of evolving an official architecture comparable to any of those which have been the milestones, the hallmark of those ages which separate the great advances in style, beauty and appreciation from those ages whose histories are the pages glossed over by future generations.

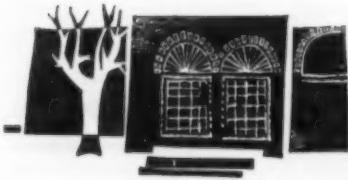
So we look to Senator Kennedy, if he is elected to the Presidency, to interest himself in one of the very important (to civilization and posterity) aspects of this age to the end that the last half of the 20th century of the United States may go down in history as comparable to the age of Pericles, of the first of Elizabeth, of Louis the XIV and of Thomas Jefferson.

Lest now it be assumed that the emphasis is too greatly on Senator Kennedy, let me make it clear that the challenge is also extended to Vice President Nixon. Doubtless there would be those who may read this article who will view with alarm the possibility that a President of the United States, in becoming the propellant of an architectural period of the future, will thereby inject as a layman a deadly amateurish aspect to the projects of the program. Now perhaps there is some cause for such alarm, for I do recall that the architectural ideas expressed on paper of one former President of the United States were such an obvious freshman approach as to frighten the architects standing at his elbow, and those of you who may have read the Washington papers when the rehabilitation of the White House was discussed, will recall the pictures of the monstrous additions and hideous alterations to the White House designed by an engineer, but approved and promulgated by the then President, William McKinley. I do not recall that President McKinley ever gave evidence of any other architectural interest.

But let me ask, did the Renaissance lords of Florence and Rome inhibit their architects? I doubt it. Did the Doges of Venice frustrate their people? Possibly. Every artist lives constantly with frustration. But there is no evidence that I know of of the injection of the master, the lord, in either Florence, Rome or Venice which may have had a deleterious effect on the design or on the progress of architecture. The same can be said of the 18th-century monarchs, both French and British. For although those of England may not have taken the intimate interest in architecture as did their Royal Cousins across the Channel, nevertheless without their encouragement architecture would not have progressed in France or England. The one horrible creation being that of the Prince Regent who, about the time he became King George IV, caused the creation of the Brighton nightmare which has survived as a dreadful example of what not to do.

I think that should our head of State take a vital interest in the advancement of architecture in this country, and if there is a failure and the period goes down as one to be treated with disdain by future generations, the fault would lie chiefly with our profession for its failure to have produced that strength of character that can guide the presidential propellant.





LIBRARY NOTES

"How-to-Books"

The recent receipt of a book-dealer's catalogue entitled "1000 How-to-Books" prompted the thought that a list of the Library's books beginning "how-to" might be of interest. Actually the catalogue had only 720 titles starting with those magic words, the remainder beginning with such phrases as "the complete book" "the art of" etc. In our list, for reasons of space, we have given only those that read "how to." Although not covering such a wide range, even these few suggest the variety of things about which people wish to know, and which have catered to this interest by using a catchy title. As usual they are available for loan to corporate members of the Institute for fifty cents for the first volume and twenty-five cents for each additional.

G.E.P.

How to become a professional engineer. John D. Constance, N.Y., McGraw-Hill, 1958. 272 p.

How to build fences and gates. Sunset Magazine. Menlo Park, Lane Pub Co., 1951. 96 p.

How to build modern furniture. 2d ed. Mario Dal Fabbro. N.Y., F. W. Dodge Corp., 1957. 214 p.

How to build patio roofs. Sunset. Menlo Park, Lane Pub Co., 1956. 96 p.

How to build swimming pools. N.Y., Simmons-Boardman Pub Corp., 1958.

How to build walls, walks, patio floors. Sunset, Menlo Park, Lane Pub Co., 1952, 96 p.

How to build your own house. Hugh Laidman. N.Y., Harper, 1950. 288 p.

How to build your own house. Douglas Tuomey. N.Y., Grosset & Dunlap, 1949. 223 p.

How to buy a house. Lewis D. Meredith. N.Y., Harper, 1947. 176 p.

How to choose that college; a guide for students and parents. Clarence C. Dunsmoor and Oliver C. Davis. Boston, Bellman Pub Co., 1951, 51 p.

How to color-tune your home. Louis Cheskin. N.Y., Macmillan, 1954. 203 p.

How to decorate and light your home. E. W. Commyer and C. Eugene Stephenson. N.Y., Coward-McCann, 1955. 256 p.

How to do business with the U.S. Government. Oliver Hoyem, N.Y., O. Durrell, 1949. 288 p.

How to estimate carpentry, masonry, lath and plaster, marble and tile, air conditioning, electrical wiring, sheet metal, plumbing, linoleum, glass, painting, hardware. Gilbert Townsend, J. R. Dalzell and James McKinney. 2d ed. rev. Chicago, American Technical Society, 1955. 699 p.

How to estimate the building needs of a college or university: a demonstration of methods developed at the University of Minnesota. William T. Middlebrook. Minneapolis, University of Minnesota Press, 1958. 169 p.

How to judge architecture; a popular guide to the appreciation of buildings. Russell Sturgis. N.Y., Baker & Taylor Co., 1903. 221 p.

How to know architecture; the human elements in the evolution of styles. Frank E. Wallis. N.Y., Harper, 1910. 326 p.

How to make and interpret locational studies of the housing market; a report based largely upon a study undertaken for Housing and Home Finance

Agency. M. R. Brewster, W. A. Flinn and E. H. Jurkat. Washington, U.S. Dept. of Commerce, 1955. 66 p.

How to make architectural models. R. Forman. London, The Studio, 1946. 63 p.

How to make built-in furniture. Mario Dal Fabbro. N.Y., F. W. Dodge Corp., 1955. 262 p.

How to manage your meeting. Parliamentary procedure. G. Henderson. Indianapolis, Droke House, 1955. 297 p.

How to plan a convention. Percy G. B. Morris. Chicago, Drake Pub. Co., 1925. 153 p.

How to plan a house. Gilbert Townsend and J. Ralph Dalzell. 3d ed. Chicago, American Technical Society, 1958. 591 p.

How to plan and build your fireplace. Sunset Magazine. San Francisco, Lane Pub. Co., 1951. 96 p.

How to remodel basements and attics. Popular Mechanics Magazine. Chicago, Popular Mechanics Press, 1957. 192 p.

How to study architecture . . . an attempt to trace the evolution of architecture as the product and expression of successive phases of civilization. Charles H. Caffin. N.Y., Dodd, Mead and Co., 1917. 540 p.

How to talk to a client. (Part 2 of Anatomy for interior designers.) Francis Schroeder. 2d ed. N.Y., Whitney Publications, 1951. 96 p.

How to use creative perspective. Ernest W. Watson. N.Y., Reinhold Pub. Corp., 1955. 160 p.

How to use your trade association. Walter L. Mitchell. N.Y., Prentice-Hall, 1951. 287 p.



BOOK REVIEWS

The Organization of Museums—Practical Advice. Unesco. New York, Columbia University Press. 232 pp. illus. 7" by 8½". \$6.00

This useful book results from the cooperation of members and staff of the International Council of Museums (ICOM), an instrument of Unesco with committees in forty-eight countries. It is the ninth in a series entitled Museums and Monuments, some of which are on specific sites and restorations. The present text is designed particularly to give practical information to smaller museums with limited budgets or to those which are beginning to expand. It will be helpful to any architect with a museum project.

In the foreword by Luther H. Evans, Director-General of Unesco, it is noted that everywhere in the world there is increasing interest in the past history of mankind as well as in phenomena of today—from ancient (or prehistoric) artifacts and fossils to atomic powerplants and satellites. Exhibitions and techniques are constantly improved, temporary and travelling shows have become popular and there have been broad developments of specialized educational services.

This book has ten chapters by some seven authors, treating: museum functions, administration, staff, research, visitors, education, the laboratory, care and storage of collections, exhibitions and museum architecture. Some of these include selected references. A sampling from these essays follows:

Douglas A. Allan (Scotland)—on function: ". . . a gift which implies a static condition must be regarded as being against the best interests of the museum . . ."—on staff: qualifications, duties, etc of: director—office staff—professional staff—technical assistants—artisans—guards—cleaners.

Pierre Schommer (France)—on administration: ". . . whenever a

new museum is established, it is most important for its statutes to include a winding-up clause . . . what should be done with its collections should closure become necessary . . ." "The inventory must not be confused with the catalogue . . . former is administrative, latter, scientific . . ."

Hiroshi Daifuku (Unesco)—on research: "Projects such as the study of the effects of exhibitions, of analyses of the behavior of visitors, the effects of publicity to attract visitors, have taken place in several countries . . ." Daifuku quotes from the late Francis Henry Taylor: ". . . The same layman who takes offense at an abstract picture in an exhibition, into which the artist has put years of self-discipline in logical and orderly abstraction of theoretical ideas, will accept without question the right of a university or a research foundation to publish abstruse mathematical conclusions and equations which, as an untrained person, he can never hope to comprehend . . ."

(Daifuku continues)—on the visitor: ". . . over 82% of the visitors turned toward the right . . ." (a study in USA) . . . a half-size model of a hand-lift irrigation system, displayed in India, was thought to be a toy . . . (scale concept unfamiliar)—on care and storage: Inorganic and organic materials—storage conditions—accessibility—records.

Molly Harrison (England)—on education: ". . . museums can show the relationship between things . . . can open windows to those who lack interests and can help to develop sensitivity and discrimination in those who are visually illiterate . . ."

Paul Coremans (Belgium)—on the laboratory: An old saying: ". . . man is the worst enemy of works of art . . ." Scientific examination—deterioration of old materials—conservation and restoration (illustrations)—international tables of thermal and RH conditions—notes on photography.

P. R. Adams (USA)—on exhibitions: Planning—the setting—temporary exhibitions—labels—lighting—case design—mounting objects—travelling exhibitions.

Bruno Molajoli (Italy)—on museum architecture: ". . . there is no such thing as a museum planned in the abstract, suitable for all cases and circumstances . . ." Many plan and section diagrams, notes on lighting, materials and functional areas.

The value of this work to the architect lies in its comprehensive view of museum functions and activities—this is an excellent architectural program guide. We need more of them, on many building types.

E.P.

Planning: The Architect's Handbook. Eighth Ed. S. Rowland Pierce, FRIBA; Patrick Cutbush, ARIBA; Alfred Bossom and Anthony Williams, ARIBA. London, Icliff & Sons, 1959. 538 pp.

It is interesting to compare this British reference book with its American counterpart, Harold R. Sleeper's "Building Planning and Design Standards." "Planning" was first published in 1936 and Sleeper's book came out in 1955. The latter, however, supplements "Architectural Graphic Standards," which was first published in 1932 and which included only about fifty pages of planning data. Neither "Planning" nor "Building Planning and Design Standards" covers all building types. For a more complete coverage, we in America may refer also to the late Talbot Hamlin's "Forms and Functions of Twentieth Century Architecture" (1952), "Time Saver Standards," "Don Graf's Data Sheets," and magazine articles including the "Building Type Reference Guides" published in the *AIA Journal*. In general, in "Planning," building types are discussed more fully than in Sleeper's book and in a less

scholarly manner than in "Forms and Functions."

The intent of "Planning" is stated in the Introduction:

"Practical planning must start from a broad statement of programme. . . Any . . . additions to understanding must . . . come from a classification of factors or requirements governing each type of building. . . The unknowns must be subjected to examination through a process of analysis, or research into parallel cases, generally of the past, by requirements laid down by the user or client, or by the classified accumulation of experience stored for future use. . . An architect . . . is trained up in a broad knowledge of many types of building (and) his training enables him . . . to perform the necessary analysis and classification in preparation for the planning of a type that is new to him."

"Planning" offers aid in this process.

The first part of "Planning" is devoted to "analyzing elements" which are common to several types of buildings, and the second part "deals with particular types of buildings." It is not the intention of the authors to deal with esthetics, but to "indicate how various types of buildings are planned and to supply that information and data which is essential before planning can begin." The book is addressed both to students and practicing architects. Building types covered are:

- Housing
- Flats
- Residential Hostels
- Hotels
- Public Houses
- Schools
- Colleges for Further Education
- Community Centres
- Factory Buildings
- Office Buildings
- Shops and Stores
- Municipal Buildings
- Law Buildings
- Museums and Art Galleries
- Libraries
- Fire Stations
- Clinics and Health Centres
- Crematoria
- Sports Pavilions
- Baths
- Holiday Hostels and Camps
- Garages and Parking Spaces
- Farms

Somewhat shocking to Americans is the inclusion of advertising, but otherwise the format is satisfactory. The three-column page permits use of small type.

No space is allotted to historical development of types and the general discussions of requirements are concise. Recommended dimensions and typical layouts are given but no details. While modular design is supported, its application is not illustrated.

For British architects and American architects with British commissions, "Planning, The Architect's Handbook," would be invaluable. While common building types and the requirements of these types in Britain differ from those in America, the comparison which is offered by "Planning" is valuable. For example, under the heading of parking garages, "Planning" illustrates not only the elevator and ramp arrangements which are common in this country, but also some arrangements which are new to this reviewer. The authors have been thorough in their study and presentation. As Kenneth M. B. Cross, M. A., says in the foreword: "As planning problems increase in complexity and as modern building construction requires ever greater knowledge on the part of the designer, so it is that books such as this help to relieve the increasing burden on the architect by enabling him to gain much varied information in a very short time."

CLINTON H. COWGILL, FAIA

Emphasis in these pages is on interiors but enough descriptions and illustrations are given of house structure, detail, materials and surface treatments inside and out, to capture essential qualities of design. Nothing can take the place of being within this comfortably-scaled architecture or seeing it in the crystalline light of winter.

Despite the obviously expensive and conspicuous accumulations of antiques in some of these grounded Mayflowers, enough of them remain in family hands to demonstrate the difference between affectionate inheritance and acquisitive excess.

A notable pleasure of "The Island" is the calming environmental effect of an orderly sequence of related architectural periods. This is its significance and importance for architects today—not for another spree of sentimentalism. Almost as bad as that rather immature reaction is the "cultural self-abuse" of the japonistic we now have with us. Again, the quality which is mistakenly expressed in this Zenaissance is that of a consistent environment arrived at with a use of natural and simple materials.

On Nantucket, the early colonial, tempered with Quaker simplicity and clarity of surfaces, was altered with the Revolution to a somewhat miffed, and not jingoistic, Federal architecture. "America," as the mainland is still called, not only did a poor job of defending them against the British but carried off at least an equal number of trained seamen and hard-to-come-by stores.

With whaling wealth and the times came the accented detail and proportioned line of Greek Revival. The sequence and visual counterpoint of these three periods—simple colonial, Federal and Greek Revival—provides a considerable pleasure to the observant eye.

No one can write a book about "The Island" without scraps of history and this is no exception. The only typographic error found, unfortunately came right home to this reviewer. My dear old friend Dr Will Gardner would join me in objection to listing the title of one of his inimitable books as "The Coffee Saga." My great-great-grandmother Judith Coffin would also disapprove.

E.P.

A Pig in a Poke

The American people are being asked to buy a pig in a poke. Here in Washington, we newspaper readers have been kept fairly well informed on what has been happening regarding Lafayette Square, the front yard of the White House. We can only hope that newspaper readers in the rest of the country have been told as much.

There was a general sigh of relief when the Federal government bought up the properties on the east and west sides of the Square, thus preventing the private exploitation of any of that precious land. Two years ago the government announced that it was going to build a much-needed Executive Office Building on the west side of the Square, extending all the way through to 17th Street, but preserving the Decatur House and the Blair and Lee Houses on Pennsylvania Avenue. The proposed building, as published, was a big blockbuster of typical Federalese architecture, lacking in character and overwhelming in scale. The public clamor over it must have had some effect, for there are reports that later designs allow for the portion of the building fronting on the Square to be low, with some attempt to achieve a proper relationship to the old houses. But beyond that we know little. The plans are being drawn for approval by the officials concerned, but the public, whose property the building is and who have the greatest stake in the maintenance of the character of Lafayette Square, have been kept in the dark.

Now the same thing is happening to the east side of the Square, only worse. Plans are being prepared for a building for that side, and again, under a veil of secrecy. The House Subcommittee on Buildings and Grounds approved the project without even a public hearing; The cor-

responding Senate Subcommittee held a hearing in May, and groups interested in preservation had their opportunity to speak—but without knowledge of all the facts. They were, in effect, being asked to approve the destruction of the old buildings without knowing what was to replace them.

The government proposes to build a new Court of Claims building on the east side, a building which would be much better placed elsewhere in the city, where there is plenty of room, in the opinion of many people. But one man, the Chief Judge of the Court of Claims, wants his building to be across from the White House. So there, apparently, it is going to go. The Senate and House Subcommittees approved the appropriation of funds for these buildings on both sides of the Square, so now it would appear that nobody can do anything about it.

Why is this all so important? It is not important to the lazy-minded, but anybody who gives it a second thought will realize right away that it means a lot more than just the demolition of a few old houses filled with associations and memories of some of the great names of American history. Architecturally, Lafayette Square is just as important as the south lawn of the White House, the Ellipse and the slopes of the Washington Monument. Furthermore, it frames the approach to the White House. The White House has for a hundred and fifty years been its dominating feature, as it should be. (Fortunately the modern buildings on the north side of the Square are the most remote from the White House.) Two massive government buildings flanking the Square will destroy the scale of the whole ensemble. And that word, "ensemble," brings out just what is lacking in this whole disaster. There has never been (except for the monstrous proposal of the McMillan

Plan) any attempt on the part of the government to recognize the White House, Lafayette Square and its surrounding buildings as an *ensemble*. Yet in order to preserve the dignity and prestige of the Executive Mansion, the entire area in front of it must be studied with relation to it. Any architect knows that.

The approach to the whole problem has been the same as the approach to the same problem in every American city—piecemeal, without forethought or over-all plan. Yet, *this* is the heart of the nation, the approach to the White House, hallowed ground dear to every tourist.

In a more hopeful vein: There is evidence that the design for the west side of the Square is going to be intelligently handled. But the designing of the east side is complicated by the gigantic scale of the existing Treasury Annex, which was built as the first unit of Cass Gilbert's design for the entire Square under the McMillan Plan.

Possibly the government officials and their architects have worked up a scheme which will be such an improvement over what is already there that we will gladly sanction the destruction of the historic houses which remain—but experience with official architecture gives faint cause for such a hope. But the persistent blanket of secrecy is what puts the American public into the position of buying a pig in a poke. We are being asked to approve and accept something we have never seen and know little about, at the cost of the loss of some more of the precious relics of our heritage.

Lighting Research—its role in architectural design

by Eric Pawley, AIA Research Secretary¹

► Daylighting, the flame, the arc, the hot wire, the wobbling gas and the excited chemical, all have their place—even the appropriate last—and all of them influence architectural forms in many special building types. Consider for examples the so-called war of cross-sections in California school buildings—the renaissance of museum lighting when it was divorced from the natural skylight with its 100° F- plus temperatures in the attic—the top-light loft temperature seemed to approach that within a lamp—and before airconditioning who ever went to a museum in the summer?

A fascinating review could be given, if we had time, of the thousands of years search for expression and evocation of religious feeling through that most wonderful symbol of LIGHT, which in every language is synonymous with understanding of exalted ideas and ideals—from the mystery of massive Egyptian temple columns rising eighty feet to a ceiling above a clearstory—to the glorious color of gothic stained glass in Chartres cathedral—to the faint flicker of sunlight on the interior walls ingeniously reflected from the water surrounding Saarinen's chapel at MIT and light from the "eye" picked up on Bertoia's symbolic, fluttering screen behind the altar—or to the romantic patterns of color in deep masonry reveals in Le Corbusier's Ronchamp chapel in France.

What is the constant factor in all these great buildings? It is FORM, architectural form, revealed by light. Corbu has defined architecture as the "skillful, accurate, and magnificent play of masses seen in light . . .".

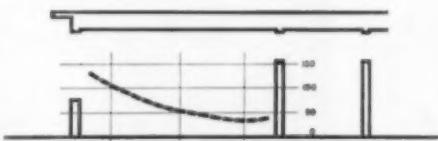
A charming little blonde—she's

nine years old—showed me some house plans she had drawn. Her parents were about to build and she had seen architectural drawings for the first time. Melissa's drawings were very interesting. First she made an outline of the exterior wall which might, in one of her many plans, look as much like a Scottie dog or a fish as anything else. She told me, wiggling, that she decided first what it was to look like. Then she drew in partitions to create rooms around this formal concept of the outside wall, beginning with the bathroom as one that impressed her as most important (for goodness sake, Melissa, stop wiggling). The point is that her childish idea of a house is the typical western lay concept. And is there really much conceptual difference between nine-year-old Melissa's house "plans" and the late ancient notable who wanted to do a building like a shell?

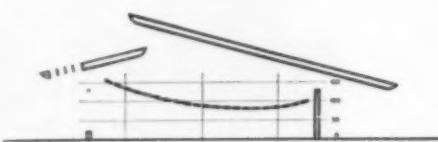
J. B. Jackson, editor of that quite remarkable little three-times-a-year magazine from Santa Fe called *Landscape*, draws a perceptive comparison that may help here:

" . . . the basic Anglo-American dwelling unit is the *house*, which we subdivide into rooms—the basic Spanish-American unit is the *room* which is eventually added to . . ." it is additive, the other divisive.

This germ of a building, the room, with time, is multiplied around a courtyard or plaza with a well in the center. A two-story version with balcony may be seen in Monterey, California. Carried further in the typical mediterranean house it surrounds four sides of a patio, perhaps on several floors. In full development it has the most sophisticated double-patio—one of which is green with much foliage,



Unilateral lighting



Tri-lateral lighting



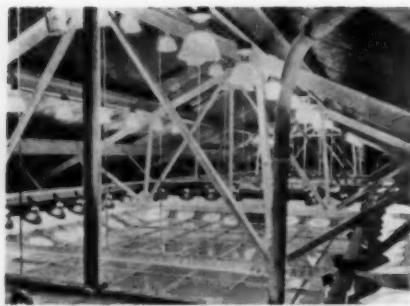
Bilateral lighting



Bilateral with extended sun and sky-brightness control louvers

THE BATTLE OF CROSS-SECTIONS
(Caudill and Reed)

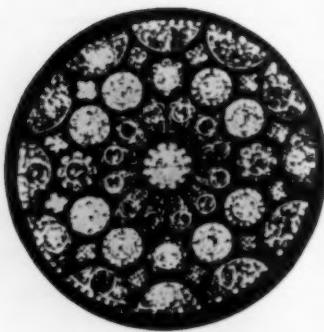
¹ From a paper for IERI Research Symposium March 3-4, 1960 Washington, D. C.



A museum skylight



Oscar Niemeyer's residence — note green and paved areas. "Modern Architecture in Brazil" by Henrique E. Mindlin. Reinhold Publishing Corporation



Courtesy: French Government Tourist Office

Model of Hypostyle Hall, Temple of Karnak. Courtesy: The Metropolitan Museum of Art, Bequest of Levi Hall Willard, 1883



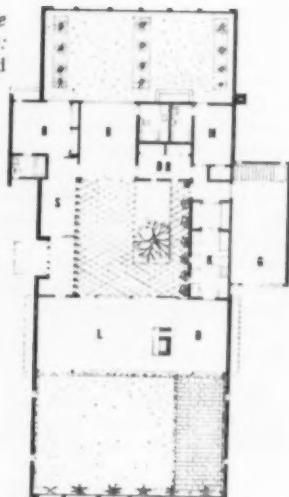
74

Rey Ruppel



Whaling Station, Monterey

Sert residence — note three patios. Courtesy: Architectural Record



At right: Le Corbusier's Ronchamp Chapel—a romantic pattern of colored light. Courtesy: French Government Tourist Office.

Below: Bertoia screen in Saarinen MIT Chapel

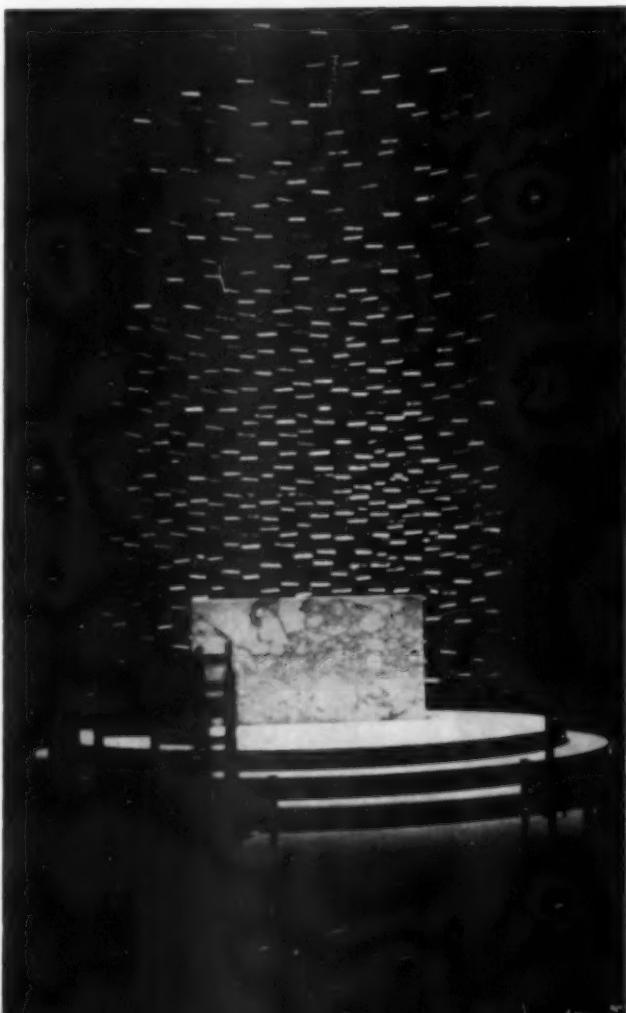
pools and sparkling fountains and the other, dry and hot. Between them a link of building with the most comfortable rooms in the house because the heat rising from the dry patio pulls the delightfully cool air from the green one thru these rooms in the middle. There are also interesting variations of lighting involved.

What we have then is a conscious manipulation of environment thru architectural form. Some contemporary houses have been planned in this way of freedom. Oscar Niemeyer's own house near Rio for one brilliant example which similarly works from green to paved areas. Dean Sert's house in Cambridge is an almost too refined example of the *triple* patio in an alien climate. So we have today a paradoxical search thru tradition for increased liberty of form, and with it multiplied opportunity for creation of effects of light in most important combination or integration with other factors of environment.

The article in this issue of the *AIA Journal* by Abe Feder, a skillful lighting designer, tells what must be done to create such effects in the theatre, with an amusing sympathy for the ladies in the audience.⁸

From the functional archer's slit in a heavy masonry castle wall and the narrow and deeply recessed fenestration of that gorgeously lighted refectory in the abbey of Mont Saint Michel, we come to today's mad delight in today's materials and their possibilities—to what? To that thin skin—the porcelain-enamel-and-glass-plaid disease, of course, that epidemic of epidermic reticulation called the curtainwall.

It is mostly spawned in complete ignorance or arrogant disregard of suncontrol. Our Latin neighbors in Brazil have done far better. In Washington, however, where we are somewhat climate-conscious, you can see trials of both horizontal and vertical louvers for suncontrol. In the suburban counties, however



⁸See page 81 of this issue

again, our most progressive architects cannot sell one foot of sun-control to a school. It's a frill! We'll keep on trying.

The architect's present concern for environmental factors as elements of design is not new but currently rediscovered. The Greeks knew a lot about the optics of vision. The French essayist, Montaigne, 400 years ago, said "You think you live under universal principles—but in fact they are municipal by-laws!"

In a recent dinner-discussion devoted to science and philosophy, some scientists and humanists recognized that man's values were possibly more durable than so-called "facts." Typically (a humanist speaking), the scientist has a naive faith in the belief that error will not repeat itself." He proves facts by their too-often illegitimate offspring, statistics—by quantity of experiment, the criterion of truth being merely the repetitive situation. A learned wag recently said, "Aristotle discovered all the half-truths which were necessary to the creation of science!"

What's invisible? It is reported that 400 to 700 millimicrons,* or even the refinement 380 to 760 are quite arbitrary limits for human perception of color and that 312 to 1050 are not impossible. In planning for man's conquest of space, certain experiments on human reactions have shown that when we are deprived of our usual sensory impressions for eight hours we have striking aberrations of our percep-

tions—shapes of things change in form and size, lines move, haloes even developed (this may account for the men some women pick).

What kind of space do we live in? Study of the works of certain advanced artists, sculptors and painters both, can be rewarding to lighting engineers as well as to architects. There was a period in Picasso's work I could not understand or appreciate—some paintings he did in the early 1920's of very violently assorted women on the seashore. One morning at breakfast I caught sight of my reflection as I reached for our spherical stainless steel coffee pot. I was in a different kind of space—Picasso's space. As a matter of fact, paradoxically, almost in the ambient atmosphere of his compatriot Velasquez' space as well. Picasso's strange forms were a highly sophisticated expression of vision in which perspective, the picture "plane" at least, was curvilinear. His brutally deformed ladies cavorting on the beach were no less mis-shaped than my hand and forearm as I reached for another spot of coffee. Perhaps this is how we look to a horse! As I look at these paintings now, the space pulls back and forth in a way that gives a peculiar reinforcement to the third dimension. Someone else has noted that this perspective alteration accentuates movement. I saw recently that Picasso has said "Color is a measuring instrument in the world of shapes . . ." Perceptually, the man is way out there ahead of us.

Can we learn from such experiences something we can use in design? We can if it is only increased awareness of design possibilities—awareness of space patterns and their relationship.

That we are in danger of losing such awareness is the fear of a noted bio-scientist, Dr Adolf Portmann, of Basel, Switzerland. In an excellent article in that same magazine, *Landscape* (Autumn 1959 issue), called "The Seeing Eye" he says: ". . . our visual sense is being allowed to revert to a sort of wilderness state. The language of form and color is being abused to the point where a new kind of illiteracy is emerging, and this is true not only in childhood and adolescence; the new illiteracy is invading the adult sphere as well. The present flood of illustrated publications threatens to increase to an enormous extent the number of visually ignorant and the visually apathetic . . ." Dr Portmann continues, calling for "new thinking on the whole subject of schooling, especially of the schooling of vision . . ."

There is another concern on my part, voiced in my recent review of an history of contemporary American architecture—it concerns regionalism in design: ". . . a most pernicious aspect of this book may be its denial of regional values in American architecture and encouragement of such negation. These values may presently have decayed but is this good? As shutters click and presses roll, as an individual architectural prac-

The plaid disease



* units of measurement for the electromagnetic spectrum—visible range

tice expands away from its original locale, as the output of architectural schools is scattered, and as building product profits outweigh shipping costs—of course we shall find the anti-regional. If it is good it will have influence but often only in superficialities. . ."

I believe there is an opportunity for us to study regional aspects of lighting—and it will affect electrical lighting as well as daylighting because of adaptation problems.

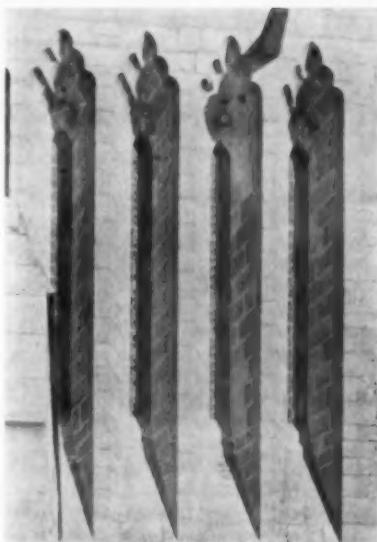
We are learning more about space and color perception and we are pushing forward into exciting areas of research which bridge over, perhaps in a kind of triborough bridge, from architecture to light to man's everchanging capabilities, both physiological and psychological.

At the center of this bridge, swaying a bit in its still tentative engineering, is the new market-place in which we both have our wares to sell—not just candles or lampions by the foot or white lines on blue paper—but an integration of the factors of environment which we and others must work out together and which belong under the total design responsibility or correlation of the architect. We cannot even start without awareness of the dynamic patterns in which we live and our urgent need to know more about them. This is the role of our mutual research as lighting engineers and architects.

This is why two architects have been appointed to components of the Illuminating Engineering Research Institute. AIA First Vice President, Henry L. Wright, has been appointed to the IERI Board of Trustees and I, with the technical function of AIA Research Secretary, to the Technical Advisory Committee on Light and Vision. We hope we will not deflect too much under impact-loading as we take our places as members of this bridge. ▀



Narrow slits

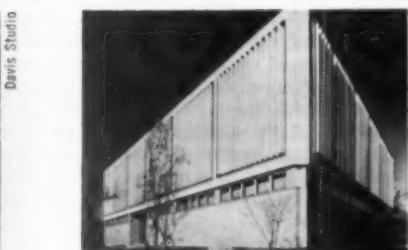


Deep reveals

"Le Mont Saint Michel Au Peril De La Mer."
Librairie Hachette



ACS—horizontal



AAAS—vertical suncontrol

Faulkner, Kinsbury and Stenhouse, Architects

Davis Studio
Fred J. Marion

Integration of Light

AND ARCHITECTURE

by

Howard H.
Juster, AIA

Associate
and Project
Architect in the
firm of Perkins
& Will



► A list of the specialists an architect may have to consult with on any one project is overwhelming. It makes a symphony orchestra conductor's job child's play. Besides the normally accepted structural, mechanical, electrical and illuminating engineers there may be in addition: A special soils engineer; a site engineer; a landscape architect; an acoustical engineer; a space analyst; an interior designer; a color consultant; a kitchen specialist—and of course, with ever-increasing concern for integration of the arts, there may be a painter, sculptor or artisan of almost any variety.

The architect today is very much in need of this specialized knowledge. Without it he would find it impossible to produce the *completely designed building*.

This goal of the completely designed building implies that the specialized knowledge, contributed by the many consultants cannot be considered merely as necessary supplements to the architect's work, but must be thought of as a completely integrated part of a total architectural concept. Naturally it is important that ducts clear beams,

that the structure relate to the walls, and that partitions do not fall in the middle of lighting fixtures. Technological integration of a building is an extremely complicated task, but its perfect accomplishment is by no means an assurance that one can achieve the completely designed building.

The integration referred to is one of a more fundamental nature—a basic point of departure—where the specialized knowledge becomes a dynamic part of the creative *design process*. Only by striving for this type of integration can we hope to start on our way toward the completely designed building.

Each of the consultants previously mentioned plays an important role in the design process, but none is in a more sensitive position than the illuminating engineer. Ironically, none has failed more completely to fulfill his potential in this regard. This is not wholly the fault of the illuminating engineer. The blame must be shared equally by the architect.

The writer, by no means a lighting design expert, cannot suggest remedies in the precise terms of illuminating language and methods.

Some of the reasons why we have fallen down in our task, some of the design considerations architects must face, some approaches which may make possible a richer fulfillment of the potential relationship between electric light and architecture are the subject of this discussion.

We have failed to take advantage of the lighting potential because we have not considered first things first. We have considered lighting as an accessory element to architecture instead of acknowledging it to be a central design determinant. Initially, architects tend to concentrate on lighting fixtures—and engineers on quantity. Together, in this way, they have ignored the basic principles of creative design. Although lighting fixtures may serve as decorative adornment—and a certain quantity of light is necessary for the optimum viewing of a specific work task—these factors hardly represent an initial point of departure for the design integration of light and architecture.

Light is a tool of architecture, just as steel, concrete, glass, brick and paint are. It is the way we use these tools to create space, form, texture, pattern and color that distinguishes *architecture* from just an ordinary, efficient and functional piece of *construction*. It is the successful embodiment of these qualities within the building environment that make it inspirational and moving. And when all is said and done, it is not the efficiency but the art in architecture that will move men's minds and enrich the deeper human values that are judged to be the heart of life.

The illuminating engineer should be called in by the architect during the formative stages of design—just about the time that the architect has arrived at an initial space concept for the building. It is at this point that the engineer can best be oriented to the design direction. Here the matter of space can be discussed without too much danger of either party getting initially swamped by the fixture and quantity details previously mentioned.

Space is an elusive and intangible quality—difficult if not almost impossible to represent either graphically or in model form. It is something the architect feels, and its

*Adapted from talk given before IES April 1959

Above photo: Testing lab: Perkins and Will

—Architects. Hedrich-Blessing photo

success or failure is never really expressed until the building is completed. But, interior space is the most significant ingredient of architecture—a fact noted by Lao-Tse in the 6th century BC: "We turn clay to make a vessel; but it is on the space where there is nothing that the utility of the vessel depends. We pierce doors and windows to make a house; but it is on these spaces where there is nothing that the utility of the house depends. Therefore, just as we take advantage of what is, we should recognize the utility of what is not."

Light, of course, is just as intangible as space. Though a tool of architecture, it differs markedly from the others for—paradoxically—it cannot be seen or expressed in the design stage. In the final building it is the medium which enables us to see, and to feel and appreciate the interior space that has been designed.

To deal with two such intangibles—both of which are the key to successful architecture—is difficult and confusing at best. Perhaps this is why their integration has been generally relegated to such a minor role in the creative design process. This role must be reversed, and the integration of light and space must be a prime consideration if the creation of a completely designed building is to be achieved.

The Fundamental Issues

In dealing with light and the molding of space there are some basic questions that should be asked.

First, in general terms, what feeling and mood should the space convey? Shall it be intimate and human in scale—or shall it be monumental, conceived as the symbol of an idea, a myth, to impress itself upon and dominate the human being? Shall it be a self-contained space with absolute autonomy with respect to neighbouring spaces—or shall it be an expansive one that flows into and merges with adjoining space? Shall it be static and symmetrical or shall it have a strong directional character? Actually it may be a combination of these qualities. The final result may be influenced purely by the function of the space or by the desires to evoke a particular psychological reaction. Most probably it will be a combination of the two.

Final determination of the spatial quality rests with the architect. However, in this regard he must clearly express his thoughts to the lighting consultant. If the lighting pattern is not initially conceived as a factor of the spatial quality, the final impact will be diluted and the architect's creative efforts will be for naught. A few random examples may illustrate this point.

The extension of inner space to the outdoors is a strong spatial concept of today's architecture, and we see it expressed in many contemporary houses. Advances in technological developments have made it possible to use the wall merely as a transparent screen. During the daytime the relative brightness between indoors and outside makes it comparatively easy visually to accomplish this extension of space. However, at night the all-glass wall may become as great a visual barrier as the masonry one. Artificial light from the room bounces off in all directions, causing considerable discomfort and removing any indication of the outdoor space beyond. Often the only solution is to draw the drapes, and then, except for a slight suggestion, the spatial concept is destroyed. It seems almost criminal, both esthetically and economically, to provide a transparent wall and then render it useless during what is often the most important and frequent occupancy periods of the space. The illuminating engineer, however, holds the key to the solution of this problem. By designing and properly placing outdoor electric light he can destroy reflection and together with the architect preserve the spatial concept for use at all times.

The extension of space from the outdoors to the interior of a building is also an important design concept—as illustrated by the Seagram Building in New York. In this case the enclosed lobby was conceived as a space extension of the open plaza in front. During the day the extreme brightness contrasts would never have allowed this to come off if it were not for some very sensitive artificial lighting design. A high uniform brightness over the lobby walls—from an almost hidden source—effortlessly and effectively carried out the architects' intention. As an additional refinement, the brightness of this interior lighting is controlled rela-

tive to midday sun, twilight and night blackness, as well as the density of usage.

Take the classroom space for example. Here the challenge is most difficult for the nature of the work-task involved demands an even overall brightness intensity, and the first and often only inclination of the engineer and the architect tackling this problem is to place 3 or 4 rows of fixtures, to insure the proper lighting level, minimize shadows, and of course, by latest standards to assure the proper brightness ratios between the task and its immediate surroundings. This approach may, by calculation and measurement, insure optimum viewing conditions for a specific task. But whether it employs strip fluorescents, patterned incandescents, or a luminous ceiling, the effect is usually one of dull monotony. This one-sided technical approach may often be self-defeating. With its preoccupation with efficiency it can often induce boredom.

Regardless of his task the human being from time to time needs relief through contrast, to provide stimulation and rekindle interest. Perhaps this is why we still delight in the use of candles and fireplaces when they have long outlived their function. Now in a classroom—why can't we give some thought to providing contrast without minimizing the lighting needs for a working task? We have the opportunity for highlighting various tackboards, exhibition cases, possibly the chalkboard and from time to time a variety of objects around the room. This does not have to be accomplished by reducing the overall illumination of the room, but can be accomplished by piling brightness upon brightness, and achieving by this method the same contrast as that between a relatively bright and relatively dark area.

As the architect moves along with the design development, the choice of specific materials assumes greater importance. Materials may be chosen for reasons of texture, reflective quality, pattern or degree of opacity. They are chosen in relation to the spatial concept—and whatever the choice, their effect can only be as successful as the lighting will allow.

For example: A richly textured stone wall can look as flat and

smooth as plaster under a bright diffuse light pattern. A hard plaster wall, which should appear flat and uniform, can look wavy and distorted when washed with a strong grazing light—that should have been used for the stone wall in the first place. Perhaps these "dos and don'ts" are elementary, however, they are still being reversed in many buildings today.

Total Design Effect

An interesting and challenging problem is the artificial lighting of a church or chapel. If the dominating mood is to be transcendental in nature, the lighting pattern must be designed to help carry out the spatial concept of infinitude and dispersion, to allow dimly lit space to fuse with darkened shadow. Also, for psychological purposes we may wish to create heightened drama by emphasizing a symbolic focal point such as the altar or pulpit. At the same time, and practically, we must provide sufficient illumination to allow the congregation to read their prayer books. Here then are three lighting patterns. Each has a distinct and independent design problem to solve, and each must operate simultaneously and successfully with the other. Unless these problems are approached in terms of *total design effect* one lighting pattern may cancel out the other, and either the spatial concept or functional requirement will be lost.

In contrast to the transcendental mood of one church, another may convey the feeling of serene equilibrium. In this case it would be antithetical to design the lighting pattern for effects of mystery, infinitude and kinetic drama. Here the lighting pattern should allow occupants to comprehend the space fully and rationally, to be at ease, to dispel mystery, and to convey the calm precision of the humanly universal.

The need for integrating designed space with lighting cannot be overemphasized. As has been noted, similar building types are not necessarily designed to impart similar moods. The illuminating engineer must be fully aware of the architect's space concepts, and the psychological mood intended, before he can begin to design his lighting patterns.

In many cases the functional use of a space is the main factor in determining what light forms are to be used. However, even in cases where physiological needs are paramount, psychological needs should be considered.

Recently I had a shattering experience along these lines. I persuaded a client to spend some extra money for a fine grade of imported marble in a lobby area. The effect was a rich and beautiful one—until the lights went on. It then became readily apparent that if I had used mirrors in the first place, I could have had the same effect at half the price. I am sure this was all my fault. If I had paid more initial attention to the material and its qualities, and less to the lighting fixture, this probably would not have happened. But I am still a bit peeved at my illuminating engineer. Why did he not warn me? Perhaps he did not have anything to warn me about. I may never have told him that I was using marble, and he may never have thought to ask.

Materials will fail to make their potential impact if light is thoughtlessly superimposed upon them. Characteristics of light sources and characteristics of materials to be lighted must be carefully integrated if the complete design is to be achieved.

Color is an important ingredient in the architect's design palette, and here again it is at the mercy of electric light, especially when the sun goes down. Color provides the necessary accent in what might be—without it—a drab interior. Color also helps to mold space by creating the illusion of dominant or recessive wall, ceiling and floor planes. We architects tend to select our interior colors in daylight only to find that they often lose their effect when drapes are drawn. This is an extremely difficult problem to cope with. It would be possible to develop a practical office-type testing device, a light-box that would enable us to test and patiently survey color chips under various types of electric light. This may not be ideal, but it would be an improvement.

Considering the several problems discussed, plus many more that remain unmentioned, it is time to ponder the selection of the lighting fixture or luminaire. This consider-

ation should not be minimized, for there are often times when the lighting fixture in itself is an important part of the decoration, generally, however, it should be selected after the basic design approach is thoroughly worked out. The successful integration of the lighting fixture will depend solely upon its proper relationship to the overall design concept.

In regard to lighting fixtures, there is one deficiency that is not attributable to the architect or the illuminating engineer. The design of most of our lighting fixtures, from an appearance standpoint, offers little to choose from. There are some notable exceptions, but generally function and beauty have been separated. Our lighting manufacturers might well follow the design examples set by their Scandinavian and Italian colleagues but not in literal imitation. When this has been attempted even by some of our more notable lighting fixture companies, all sensitivity to detail and form seems to have been lost in the process.

The integration of light and architecture is a broad and complex subject. If we are to realize the full potential of electric light in its relationship to architecture we must think in much broader, basic terms than heretofore and must strive to penetrate the problems more deeply.

First, the architect must take the leadership by setting the design concept and clearly communicating this to the illuminating engineer.

Second, the architect must develop his sensitivity to relations of light and space rather than concentrating on lighting fixtures as the first step. The engineer must think of quality before quantity and learn to use his light-forms in a manner that will be truly integral with the architectural concept. Architect and engineer must have a firm grasp of the general qualities, functions and characteristics of light.

After these basic steps it is time to use the detailed knowledge of luminaires, wattages, lamp-spacing and the like—to engineer the desired design effect. By an approach of this sort we can come a step closer to realizing the completely designed building through the basic integration of light and architecture. □

by Abe H. Feder*

Theatre Form Through Light

You don't see light until you put something in it

We talk of buildings which breathe with their people, for the heart of a building is the people and what they are doing there. A theatre, more than almost any other building, must breathe with its people and catch the essence of what happens inside. What happens inside is something that cannot be calculated on a slide rule: A group of people seeking to capture a dream. In this dream they have finally caught a snatch of truth and a snatch of beauty in their hands. It is this experience they will share with an audience inside a theatre. The theatre form must prepare the audience for being lifted out of their lives and stretched to enormous heights. This is the ideal in drama, but it does not always happen. Nevertheless, the theatre form denies the failures. A true theatre is an embodiment of the ideal.

The lighting designer is sometimes called on to create the theatre form out of nothing but four walls and a roof; sometimes, outdoors, he is given only a floor. Most of the time he is given a form already defined architecturally as a theatre. His very integrity demands that he follow the architectural intent. Sometimes an architect is inspired by the drama first, who relates efficiency to it second. Sometimes we have an architect inspired by efficiency first, who relates it to the drama second. Theoretically they might both arrive at the same result, but they do not.

Man—maker or made?

Today, the big romance in building is the efficiently engineered plant. Start with the number of floors, the ceiling height and a budget of so much cost/cf. These factors together determine air-conditioning load, plumbing, number of square or rectangular fluorescent lighting boxes, number of elevators, and size of the boiler. Now wrap a skin around it: So many windows per floor, so many columns to support the windows. The result is an office building, an apartment house, a department store, a hospital, a factory, a garage, a super-market, a hotel—even a college.

Certain keys hint at what might be happening inside: The size of the canopies, the age of the doormen, perhaps the size of the street number on the front doors. The fact that people lead different kinds of lives in each type of building makes no difference. More and more, we emerge from such culture as modules, reflecting the way of life imposed on us. It is easier that way. It would take a race of Aristotles indeed not to give way before such militant efficiency.

The new theatre, or the revamped theatre, is also in danger of becoming a paradise of efficiency.

Some plans would delight the heart of any producer: The cubic footage allotted to storage, rehearsal and administration is ideal. The director gets an automatic scene changer and a stage that re-

The author is known to many as the lighting designer for the United Nations and the Terminal Plaza at Idlewild International Airport in New York, the New York Coliseum, the Guildhall of Chicago's Ambassador West Hotel, the particularly creative lighting for the New York production of "My Fair Lady," and many other installations and shows of all types

volves upside down if necessary. For the stage manager, there is the one-way teleprompt screen. Even the ushers get automatic seat lifters. But where is the theatre?

A theatre houses people who are participating in drama, therefore the theatre form is like no other form. Its take-off point is people in relation to drama, with all its past, present and future implications. Their feelings and reactions to this particular situation deserve the utmost respect.

Mood and Tempo

The theatre is the shrine of the drama. The audience brings to it a kind of reverence and expectancy born of a long tradition. From their first step into the building, they want to be sure they are in a theatre, because they have chosen at this particular moment to do a particular kind of living. They have come to see a play, and they must feel, not merely know, they are in the right place. This means that the drama has to begin in a lobby, or some of that special reverence and expectancy, which walks into the theatre ready-made, will be lost. Do not let the audience down right at the beginning.

The "dramatic entrance"

Lighting design helps to create drama in the house as well as on stage. Since the lobby is not a part of the house proper, it needs its own dramatic conditioning. This might be in the form of an elaborate lighting design for the ceiling or the walls, all in keeping with the general style of the theatre.

If the focal point is a mural or a sculptured wall or the like, then lighting enhances this kind of drama and it does so inobtrusively. The lighting design brings out the colors, the lines and the depth without distortion. When such a focal point commands all the attention, then the light sources might

well be made invisible, lest the fixtures become a something in themselves. In the corridor the same principle of keeping the audience enveloped in the aura of drama holds.

The Fourth Wall

Then into the house. Immediately the dramatic focus is the fourth wall, the lowered curtain. Walking toward it, or sitting facing

it, the audience is forced to look at it.

Expectancy is rooted on that curtain. It will rise into another world. Dramatize that very curtain by floodlighting it! Here all the attention of the audience is focused. Too often it is thrown away by saying — don't look now — come back later. *The curtain is important.* It is not a mechanism that is blocking the audience's view of the stage. It is an invitation to drama.

Where did you get that hat?

What about the house proper? It is surprising how minutely the audience examine the decor. The theatre-goer can probably describe a surprising number of decorative details, because he usually has to wait for the play to begin. When he has exhausted his program, his companion and the rest of the audience, he is stuck with the walls and the ceiling. But he also enjoys looking at them, for they can tell him once more that he is in a theatre. The people in the balcony have the entire ceiling for their panorama. An interesting ceiling is needed. If it is to be a mural spun around a dome, but within the theatre tradition, then the lighting fixtures keep out of its way. Nevertheless, the ceiling must be softly floodlighted so that it can be seen clearly. It might mean mounting fixtures on tiny catwalks around some of the perimeter of the walls. It might mean recessing the fixtures in the walls and targeting some of the light upward and some downward to light the interior of the house. There are a number of possible combinations. If the ceiling is relatively free, and depends, let us say, on a rather decorative perimeter line for interest, then the lighting fixtures have to help by becoming themselves adornments. Plain ceilings are not for the theatre—it is not a living room.

The Groundlings

Moving down, let us get to the people who sit under the balcony. First, the balcony itself creates an isolated pocket removed from the rest of the house. Second, the too frequent use of a down-light pattern with its direct light pouring down on the already hunched audience below, only emphasizes this sad architectural concession to seating capacity. Light can lift that ceiling by making it more evenly

luminous—perhaps with a dome provided by the architect, and indirectly lighted, or by cove lighting, or by some other visual trick. But that ceiling must also be treated in its decor to make it once more a part of the whole.

Phantoms of the Opera

Going down front now, let us look at the box booms (side-light locations). They are pretty hideous. It is no good pretending they are not going to be there. They have got to come in at some point, because they are the only means now available for targeting at certain angles onto the stage, from around corners, so to speak. Charming little boxes with the privacy of curtains will sooner or later be abandoned to house booms. Those partially covered booms, with their angular backsides poking into space, under velvet no less, and partially uncovered, look like mechanical monsters with devouring eyes about to pounce on the stage. Give up the boxes graciously and build proper maskings for those inevitable booms right into the architecture.

The same goes for the balcony fronts. Recess them right into the rail and cover them with sliding mirrors or whatever.

Exit lights are a particular peeve. Black out the stage for a lighting change of mood, and there are those exit lights throwing enough glow onto the stage to expose what is happening. Immediately the enchantment is broken, and the audience is snapped into reality. They may enjoy the vicarious pleasure of peeking where they are not supposed to, but it is not the reaction planned by the director and lighting designer. Exit lights that can be seen, but not heard, are needed.

These are all specifics about light in relation to the theatre form. The important thing to remember is that the theatre houses drama in front as well as behind the curtain, and the lighting must help to emphasize this drama one way or another.

Chercher La Femme

There are a few more general considerations about light and the theatre. A major concern is to understand the role of lighting in relation to the woman in the audience. All through the theatre, from

the lobby on in, the lighting should be soft and warm. It is warm in order to enhance her skin tones. It is soft in order to soften any harshness in feature, contour and line. There should never be any strong, direct light pouring down on her head and thus adding pouches and bags under eyes. She has enough to worry about without something else being added. In lighting, it is always important to cater to the woman. It is important in homes, stores, in offices or wherever, that she feels good because she knows she looks her best. Besides, when she feels good, she is on your side. But in a theatre, this care in lighting is particularly important. Here the woman both in her own eye and in the eye of her escort, is forced to compete with those irresistible females who keep appearing on that stage. They may be a fantasy created by make-up and lights, but they are no fantasy to the deflated woman in the audience and her utterly intrigued escort. Bolster her with flattering lighting. Give her a chance!

Another basic point, which must be obvious by now if it has not been before, is the close marriage between the lighting design and the architectural design within the theatre form. Just as the setting and lighting are one on stage, so they are in the house itself—and more so.

The problem of lighting design, considering the tools with which we are forced to work today, is almost insurmountable. Lighting design begins with light; this is the natural material. The textures of light—its color, intensity, reach-power or projection, its angle of target—these are of prime importance to the lighting design. The designer takes up his material, cuts it, widens it, softens it, and in general shapes it to his purposes. He sets up his ideal design, filling space with light in the most exacting manner. Then what? He has to go out and buy what he needs, but his material is not a fluid one like paint. It does not come in a can, so he can brush it out. It comes in glass envelopes—bulbs. Today, light is imprisoned in wires and sockets and filaments and starters and what have you, just as it was when Edison invented the first electric light bulb. Think of it. You cannot pull a light wave out of the air the way you

can a radio or a video wave. So you are forced to squeeze out of present light sources a fluidity to which they hardly lend themselves. What this demands of the designer is a precise knowledge of light-sources whether for off-stage or on-stage lighting. It is the same as knowing your instruments before you write a musical score. Each light source has different characteristics, and each lighting effect within a whole design calls for a different light source. Learning how to control each light source should be emphasized too. The use of reflectors, funnels, louvers, and light shields bring out in each bulb a different technique for the handling of light.

We should never lose sight of the fact that it is light we are handling first and foremost, despite the maze of techniques it requires today. Tomorrow the light sources may change, and each building may have its own receiver set to pull light out of the air. But if we design with light, and turn to light sources only as a means to the end, the fact that light sources have changed won't throw us.

Back to the theatre form itself, this time the arena theatre. This kind of theatre form seems like the complete antithesis of the more traditional house with its proscenium stage. But the approach to the lighting design is the same. Again the distinction is made between a theatre form and, in this case, an amphitheatre for surgical operations. The lighting is warm, soft and festive. The symbols belong to the theatre and no other form, since a theatre form stripped of symbol is stripped of meaning. Our various types of business and manufacturing become quickly obsolete, and here symbols from the past are meaningless. But the spectacle of drama has gone on from the beginning of time and it is hard to believe it will not go to the end of time. The symbols of the theatre, like the three gold balls of the pawn broker, are never obsolete.

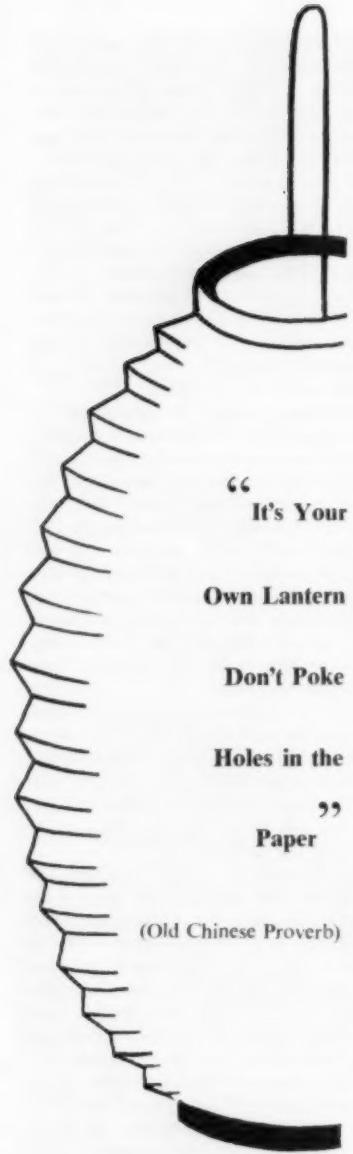
The arena theatre, with its sense of no walls, presents a knottier problem for the theatre form than the traditional house. Here, an audience, sitting in a spiraling circle, faces an empty stage, and stare right through it at each other. Once more the stage, now without a curtain, should be made into an invitation, and not be bypassed until

the show begins. There is even more possibility in the arena for dramatizing the stage, since all eyes must be riveted on it. Perhaps this is the place where the theatrical symbols belong, made still more important, still more intriguing with light. Even an empty stage can be dramatized with light. For example, the spectacle of beams of light in space changing color and pinpointed on the stage platform will certainly dramatize the stage. There are many other possibilities of suggesting to the waiting audience that the stage is the entrance to drama.

Many people are concerned that a house full of decorative symbols and rather festive and elegant lighting distracts the audience from the play. Truly it can be said that man feeds himself with bread on the one hand, and with symbols on the other. Our houses of worship have always held onto their symbols, for these are the keys to a continuous tradition. The theatre is in many ways like a church, with its long tradition, with its attempts to stretch a man to something bigger, and, certainly, with its obvious symbols to prepare him for this coming experience. So much on this level has been taken from us that we cannot afford to let our theatres be stripped as well.

It must be remembered also that decor and symbols are gone completely once the curtain goes up. There is no more certain invitation to fantasy than the simple magic of dimming the house lights. The lighting fades slowly into a rosier and rosier glow as the bulbs go orange and almost red, the walls and people disappear and the show is on. All decor, all symbol, all ornament is more thoroughly put away because the audience watched it happen. Floodlighting of the curtain or of the arena stage can change color nuances subtly as the house dims, to establish a close mood to the feeling of the play.

The most careful study of all the theatres that ever were, will not build a theatre, because this is a place where the parts are lost in the whole. The magic of drama has come alive under the most adverse physical conditions and with the most unsophisticated audiences, since people everywhere are capable of stretching when inspired. The theatre form should breathe with this magic. ▶



(Old Chinese Proverb)

Another Chinese proverb says:

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"One generation plants the trees . . ."

Another gets the shade"

► Please step into my crystal ball. It looks small but there's room for all of us in the future and I'll bring you back outside in about five minutes.

It is AD 2260, or about 100 AWOL (all-world oriental republic). Some 200 years ago in 2060 an unfortunate incident, a pushbutton shortcircuit, wiped out New York, Washington, Miami Beach, Los Angeles, The Reader's Digest, Skidmore, Owings & Merrill, and all Russian cities over 100,000 population.

The Far East took us both over and established the all-world oriental republic. Fifty years later a slow invasion from Mars was beaten off rather cleverly. They licked us first, but a Detroit firm, in an interplanetary-aid deal, wangled a contract to supply the conquerors with armor after they had been strutting and jingling around a decade or so in old-fashioned chainmail and steel plates. As part of a highly secret resistance movement this Detroit outfit looked back in the history of local industry and revived a once essentially important corporation office. This was a vice-president-in-charge-of-built-in-obsolescence. He influenced the specifications for that decisive armor contract. They not only sold the Martians fins on their armor with hooks on them, which slowed down their draw when they reached for their disintegrators, but the armor was so thin and the alloy so carefully sales-engineered that it gave no shielding against our neutron-emitters and gamma-hammers. We mowed them down before they could scramble into their saucers and blast off.

Well, here we are in AD 2260—and in a glade thlee classroom—one thing that happened in these last three centuries was a slight linguistic change: The R disappeared from the spoken language, being replaced by L—This is a class in beginning Chinese, now a requiled language of course. Oul teachel . . . (whistle) . . . a wilowy porcelain dish—is Miss Susie Wong Fold Foundation Jones (named aftel honolable ancestral national heroes). Her slit skirt flicking back-and-forth—she wears not even a Freudian slip—is the envy of the whole class—who are all little girls in bouncy crino-

lines except for the three manchilidren in black leather jackets in the back row of bolted-down seats. Thlee—a teachel Miss Susie Wong Fold Foundation Jones eyes them tolerantly—sturdy enough little fellers, the rigid survival specifications of the AWOL took care of that—and in their thick-lensed bubble-helmets, bent to within a few inches of their character-writing tablets, obviously all would measure-in as progressive myopes according to world plan. She notes furthermore that the ink they use to brush-in their practice characters is the standard half-strength specified for menchildren and the paper is from the special shiny-surface stock with excellent speculal lefection.

Oh, I forgot to tell you—these comments about menchildren—limitation of education to three per class, myopia and work-material quality specifications—all must be understood in the context of the victory of women in the war between the sexes which had finally come out into the open. Some recent archaeological research proved that this had been prophesied way back, centuries before, in the early 1900's in some fantastic drawings by a primitive artist of the pre-atomic suburban age named James Thurber. Also, but this is a bit pedantic, it was possibly foreshadowed in an obscure movement known as Momism.

At any rate, males are now tolerated only for biological purposes—only the sturdy are allowed to have any educational contact with girls and they are kept short-sighted.

(All this may seem way out there off the subject but I assure you it is not—point coming right up.)

Those back-of-the-room-bolted-down-seats, those thick-lens bubbles, that half-strength ink, that shiny paper, those smelly, fuzzy-charactered copies used as worksheets, that gray chalk and those slippery abacus beads I did not mention . . . get it? And listen to Miss Susie Wong Fold Foundation Jones, that little ivoly doll, as she glances up with her exquisitely langorous, almond-shaped slanty eyes to the luminous panels of the classroom lighting . . .

"Think I go gettee Madame superintendent blain-washee—Me still no likee fluorescent light!"

ERIC PAWLEY, AIA

an entr'acte in the seminar on classroom work-materials, AASA convention, February 1960



School Plant Studies

BT 1-42

EFFECTS OF TEACHING EQUIPMENT AND SUPPLIES ON Visual Environment



by Foster K. Sampson, IES, Consulting Electrical Engineer

From a paper delivered at the AASA convention

Atlantic City, N. J., February 1960

One of a series of papers prepared by members of the AIA Committee on School Buildings, and by selected specialists, to make laymen aware of school building problems and trends and to stimulate discussion. They are not intended to be definitive last words and carry only the authority of their respective authors. New subjects are being worked on and contributed articles are welcome. Reprints of these non-technical articles are widely distributed to educators and laymen. One copy each issue free—additional copies 10¢ each.

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Effects of Teaching Equipment and Supplies on Visual Environment

by Foster K. Sampson, IES*

An Important Breakthrough

Problems of classroom lighting are a major concern of architects, engineers and school administrators responsible for specification and design of illumination systems. Many "Recommendations," "Codes," and "Practices" have been proposed by technical and non-technical groups. Axes have been ground (and swung) and basic principles expounded. Fortunately research is now sufficiently advanced to allow reasonably adequate statement of engineering requirements for efficiency and comfort in several basic areas of such design. With requirements determined, relative success or failure of any design project is dependent solely upon ingenuity of architect and engineer and attitude of administrator responsible for basic program.

One team has been doing pure research on vision for a decade and results of this work are useful for lighting common visual tasks. Kirk M. Reid (former President of the Illuminating Engineering Society) stated that this work had done more to advance the understanding of illumination requirements than all previous research in this field.

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This was high praise for Dr Blackwell, director of this research, who has since gained acceptance of his research methods and findings from local, national, and international authorities.

Dr Blackwell's work has recorded data from standard laboratory test objects and related them to visual tasks commonly found in the classroom. The data indicated that illumination values required for efficient seeing varied over a much greater range than had previously been suspected.

Brightness versus contrast

Dr Blackwell, using young adult observers with normal or normally corrected vision, recorded visibility of a standard test object, a luminous disc, of varying size and contrast as seen against a background of varying brightness, all carried out in a large uniformly bright control cubicle. The measurements covered sizes ranging from an extremely tiny spot to large detail. The time interval varied from 1/1000 second to 1 second and the brightness of the background changed from .001 to 800 footlamberts.

Having determined how the eye sees a standard test object, it was necessary to relate laboratory data to field conditions of "moving" eyes and differing details of various school tasks. The "moving" eye

factor was determined by observing detail on a large moving wheel passing at different speeds in front of the observer.

Relation of various school tasks to the standard luminous disc was estimated by varying contrast of the luminous disc until it was equally visible through an optical instrument (contrast threshold meter) to the given school task. Once "equivalency" was established, laboratory data, with "moving eye" factor included, could be used to determine illumination necessary to see the task at a given rate of performance. Rate of performance was based upon a complete degree of accuracy and an eye-pause of 1/5 second—found to be the average pause of the eye in reading and scanning.

Measurements of actual tasks indicated that tasks having good contrast required low levels of illumination, those having poor contrast needed much more than a proportional increase in illumination. For tasks of the same size, a decrease in contrast of 1% required an increase of illumination of 15% to make the task with low contrast "equal in visibility" to the task of higher contrast.

A classroom task usually having high contrast is the reading of six to twelve-point printing type on good book paper. Measurements of many samples of this kind of

* Mr Sampson is associated with Kistner, Wright & Wright, Architect-Engineers, and consultant to the AIA subcommittee on school lighting

task established that levels of *one to 3 footcandles* would be adequate on the basis of visual performance data. Examples of classroom tasks having lower contrast than this printed material included reading pencil handwriting, and fairly good duplicated material. Poor duplicated material from several different processes had poor contrast and blurred detail.

Samples of handwriting with #2 pencil on white, lined paper were tested revealing that the lighting level required, for equal ease of seeing, varied from plus or minus one footcandle to 105 footcandles. The twelve samples (40% of a 31-member sixth grade class) having the poorest contrast required an average of sixty-three footcandles.

Tasks with poor contrast required much higher levels of illumination for equal visibility. Shorthand notes taken with a #3 pencil required seventy-six footcandles. Many duplicated samples, made by different processes, needed from 200 to 600 footcandles and in some extreme cases 2000 footcandles.

An original page typed with a good ribbon needed only 0.97 footcandles. The fifth carbon copy required 133 footcandles for equal ease of seeing.

These findings provide a basis for determining proper levels of illumination for classrooms. It is essential that the classroom and its lighting system be designed to provide an environment which is conducive to good seeing and a pleasant place in which to learn. Thermal comfort, noise level and esthetic feeling of the space must be given due consideration. The problem faced by the school administrator and the architect is how to evaluate these essential requirements and integrate the design components into a pleasant spatial environment.

We must provide the foundation for evaluating a comfortable, pleasing and efficient seeing environment. The publications of the National Council on Schoolhouse Construction make us aware of the "Principles" or "Goals" first stated in 1946 and modified in more recent printings. These goals were based wholly on experience. A paper was presented to the Illuminating Engineering Research Institute (March 1960 in Washington, DC) which reported findings of research

on comfort and glare evaluation from large area sources. The preliminary results, we believe, begin to confirm the recommendations of the National Council "Goals" and indicate good reason for even more restrictive brightness ratios.

The concept of environment conditioning, as set forth in the "Goals," restricts the brightness relationships of the many elements in the visual field. When the eye fixes upon a visual task or any significant area of brightness, an adaptation level is established which is a function of the brightness of the area and its surroundings. This adaptation will result from the contribution of the many brightnesses, integrated with respect to size, brightness, and to the angles by which their positions are displaced from the line of sight. The eye shifts from one brightness to another, readapting to the new brightness condition. If there is a considerable difference between the two levels of brightness, time is required for the eye to adapt itself. One of the important requirements for a satisfactory visual environment is that brightness to which the eye must adapt should be kept within desirable limits.

Basic Principles

Taking many points into consideration, the "Principles" for providing a comfortable and efficient visual environment are generally accepted to be as follows:

- Under ideal conditions for visual comfort and efficiency, brightness of task should be equal to or slightly greater than brightnesses within the visual environment
- In a classroom, the brightness of any surface viewed from any normal standing or sitting position should not differ excessively from brightness of the visual task. As higher or lower brightnesses of surfaces in the visual field approach brightness of task, visual comfort and efficiency increase. Research indicates that for best lighting with a thirty footcandle level, the highest acceptable brightness of any surface in the visual field should not be greater than ten times brightness of task. Above thirty footcandles, brightness ratio should be decreased as footcandles increase. The exact relationship is as yet indefinite but some data available indicate that

maximum brightness is best limited to approximately 250 footlamberts. Lowest acceptable brightness of any surface in the visual field should not be less than one-third brightness of task.

- Brightness of surfaces immediately adjacent to the visual task is more critical than that of more remote surfaces in the visual surroundings. Adjacent surfaces have lower acceptable brightness limits than surfaces further removed from task. Research indicates that surfaces immediately adjacent to visual task should not exceed brightness of task.
- Brightness-difference between adjacent surfaces in the visual surrounding should be reduced to an acceptable minimum (and should be at most one-third task brightness).
- Direct and reflected glare should be avoided in any lighting system.
- Daylight and electric light systems should conform to same brightness and brightness-difference principles. Both systems should be coordinated in design to assure effective contribution of each.
- Lighting systems should be designed in such a manner that they will contribute to a cheerful, and esthetically pleasing classroom environment.

To determine brightness relationships in a classroom, the visual task is a suitable reference point. There are many visual tasks in schoolrooms, variously located in the room. For design purposes the task is assumed to have a 70% reflection factor and a surface which will produce a brightness 0.7 times the footcandle level on the task. Brightnesses in the classroom are referred to this reference brightness and in the "Principles" of school lighting the brightness of the visual task is meant to be the reference task brightness.

Techniques

So far nothing has been said about how the lighting should be achieved. A few simple rules, if properly followed, help to determine number of lamps which must be used in any specific lighting system to provide a predetermined level of illumination in any particular space. There are many other

important decisions which must be made, however, to assure a satisfactory result.

Acceptable lighting solutions must provide an adequate level of illumination uniformly distributed over the classroom work area. Points to be considered here are those which directly affect the visual environment, and consequently comfort of the observer, and those qualities of the system which affect seeing the task itself. These are two separate and distinct considerations. Many lighting systems may be satisfactory in one respect, but quite unacceptable in the other.

As established in the second "Principle" above, no surface within the students' view, either horizontally or vertically, should exceed a brightness of 250 footlamberts under lighting levels of thirty-six footcandles or more. With less than thirty-six footcandles, the brightest surface should not exceed ten times that of the task itself. This is generally accepted as a desirable limitation—however, if reasonable levels of illumination are to be provided, this limitation may be achieved only with systems in which lamps are completely shielded from view and ultimate source of illumination is large, as in an indirect system or a luminous ceiling. With systems of this character there is a minimum of reflected glare when compared with other commonly used systems which provide equal flexibility in seating arrangements.

There are many people who, although they recognize the superiority of low-brightness systems, do not wish to rule out completely those installations which exceed this desirable minimum. For this reason a rather complex set of limitations has been set up by the Illuminating Engineering Society. Restrictions for direct glare are specific for viewing angles from the horizontal up to 45° above the horizontal, but there is no attempt to limit or specify brightness above this angle.

Lighting systems and the problem of glare

There are five classifications of interior lighting systems all of which have advantages and disadvantages:

- *Indirect systems* direct from 90% to 100% of light output to ceiling and upper side walls. If well

planned, both direct and reflected glare are minimized.

- *Semi-indirect systems* emit 60% to 90% of luminaire output upward with possible control of direct and reflected glare.

- *Direct-Indirect* has about equal components upward and downward. Luminaires for this system must be suspended to be effective. Because of higher downward component, shadows and reflected glare will be more of a problem.

- *Semi-Direct* directs from 60% to 90% of light downward. Luminaire is usually mounted on ceiling. Upward component helps to light ceiling but in most cases ceiling is relatively dark and unless luminaire is quite large, shadows and reflected glare will be objectionable.

- *Direct* produces 90% to 100% of its light downward and depending upon relative areas of light-producing surfaces, the system may be among the best or the poorest. Large areas of six to eight feet square, or larger, can produce shadow-free, and glare-free light, while individual sources of smaller area must concentrate a high percentage of light downward to avoid direct glare. This concentration of light has the serious drawbacks of causing deep shadows and bad specular reflections.

For years reflected glare has been known to be a serious problem—to be avoided if possible. John Chorlton, IES, has actually measured and reported losses due to reflected glare under several different systems of lighting. Percentages of contrast-loss caused by these different systems were known but the full impact of these losses were not recognized until Dr Blackwell determined that it took an increase of 15% in illumination to overcome a 1% loss in contrast.

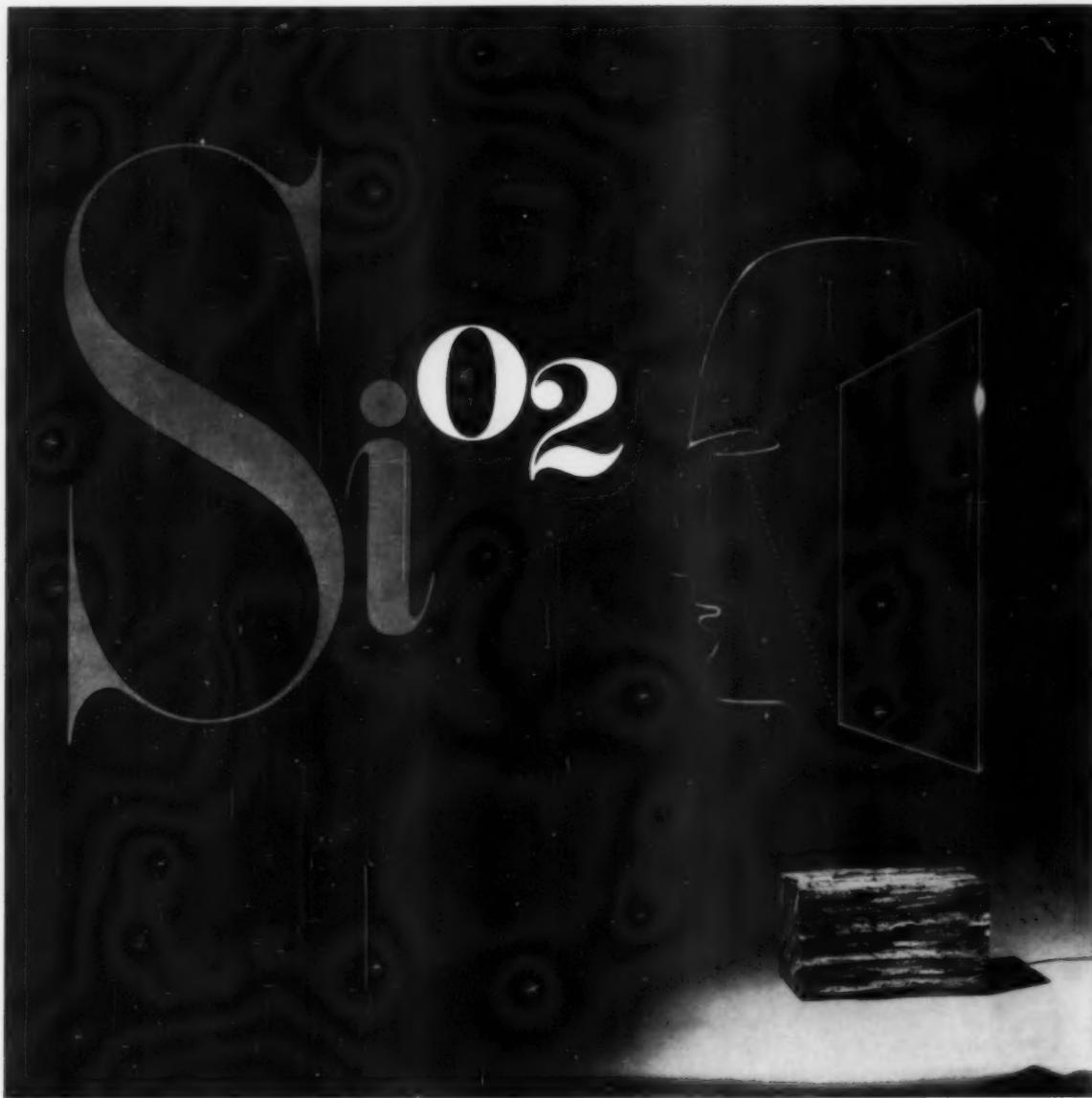
The report by Finch, Chorlton, and Davidson, presented before the international congress on illumination in Brussels last summer, reported methods and results of research on effects of specular reflections on visibility. Contrary to previously accepted ideas, the brightness of light source in the 0° to 45° zone is not directly the major cause of reflected glare. Several examples of printing and handwriting tested, showed that losses due to reflected glare were proportional to concentra-

tion of total light flux within the glare zone. This means that if all the light falling on the task came from outside the glare zone, the reflected glare would be at a minimum. The worst condition is that in which all the light comes from the glare zone. Students in a classroom may be seated at tables, facing in all directions, so that the lighting system must provide for flexibility. The most satisfactory system is that in which there is least concentration of light in any one area. Light will then fall upon the task from the largest number of directions and there will be least concentration of light in the glare zone.

Not all classroom tasks are glossy, and matte samples tested show relatively small losses due to reflected glare, regardless of lighting system.

Fundamentals

- We now have research on vision and evaluation of light-levels necessary for a particular accuracy of seeing, for a wide variety of tasks. Architects, engineers, and administrators must now decide how to apply this knowledge to selection of lighting levels for classrooms.
- There is a continually increasing appreciation of the value of environmental conditioning. The "Principles" repeated in this paper, establish goals which will be a challenge to any progressive architect.
- We now have valid information as to losses due to reflected glare—most important to understanding and evaluation of lighting systems.
- Tasks found in the classroom point out the need for considerable improvement in quality of reproduced material.
- If pencils are soft, and kept sharp and paper white rather than colored, better visibility results.
- Printed material is better produced with dull ink on matte paper. Only where it is necessary for fine detail should semi-gloss or glossy paper be used.
- Chalk boards with not more than 30% reflection factor, large characters and supplementary lighting are recommended.
- Difficult tasks are best done under the best light in the room. In some cases this may require supplementary lighting. □



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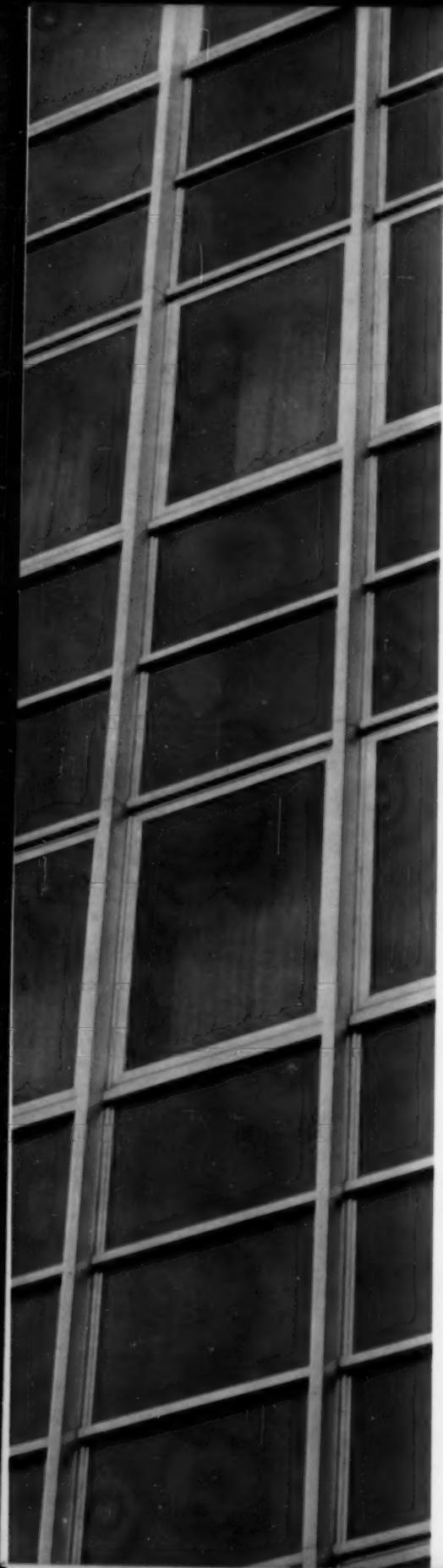
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Selection of the bevel width to be used is principally a matter of the architectural style of the home and individual preference. In general, the narrow bevels are commonly specified for the traditional styles, and the wide bevels for modern and contemporary styles (like the popular Rambler and Ranch-Type homes). One further consideration is the selection of bevel width to give an impression of greater over-all length to a home, to make it look lower, closer to the ground. The two drawings are identical in size, yet the width of the bevel siding (horizontal lines) tends to fool the eye.



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An important process commonly used in addition to kiln-drying is Weyerhaeuser's Water Repellent Treatment, which effectively increases moisture resistance, also provides added resistance to termites, stains, molds, and decay-forming fungi. Whether bevel siding is to be painted or finished natural, there are many good reasons to specify 4-Square WRT sidings.

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For further information on the selection, qualities, performance, application, and availability of Weyerhaeuser 4-Square wood sidings, write: Weyerhaeuser Company, Dept. B-60, Tacoma Building, Tacoma 1, Wash.



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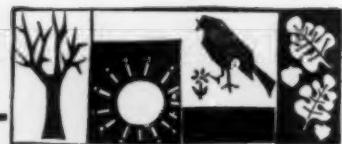
Wood is today's number one siding choice for several very important reasons. From the point of view of construction, it is easy and economical to apply to any style home. Its natural insulation value increases the total insulation built into the exterior walls. Properly installed and finished, it requires little maintenance, increases the structural strength of the home.

Wood bevel siding patterns have been widely

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C A L E N D A R

October 2-13: International Seminar on Industrial Architecture, Kazimierz, Poland.

October 5-7: Thirty-ninth Annual Meeting, The Producers' Council, Inc., Drake Hotel, Chicago, Illinois.

October 6: Sixth Annual Architects' Tour of Japan.

October 8-16: Pan American Congress, Buenos Aires, Argentina.

October 10-11: Construction and Civil Development Committee, US Chamber of Commerce, The Cloister, Sea Island, Georgia.

July 3-7, 1961: Sixth Congress of the International Union of Architects, London. (For full information write Secretary, Royal Institute of British Architects, 66 Portland Place, London W. 1, England)

AIA District and Regional Meetings

October 1-5: Northwest Regional Conference, Sun Valley, Idaho.

October 2-4: Gulf States Regional Conference, Hot Springs, Arkansas.

October 12: New York Region Annual Meeting, White Face Inn, Lake Placid, New York.

October 12-15: Annual Convention, New York State Association of Architects, White Face Inn, Lake Placid, New York.

October 13-15: Central States Regional Conference, Topeka, Kansas.

October 13-16: New England Regional Meeting, Melvin Village, N. H.

October 19-23: Annual Convention, California Council, AIA, Yosemite National Park, California.

October 20-22: California Regional Conference, Yosemite, California.

October 26-29: Western Mountain Region Annual Conference, El Conquistador Hotel, Tucson, Arizona.

November 2-5: Twenty-first Annual Convention of the Texas Society of Architects, Cortez Hotel, El Paso, Texas.

N E C R O O L G Y

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According to notices received at The Octagon between July 22, 1960 and August 12, 1960.

BOHLEN, ROBERT L., Indianapolis, Ind.
FOSTER, C. WILBUR, Indianapolis, Ind.
HARDY, NAT W., Corpus Christi, Texas
PICKENS, LEONARD H., Reno, Nevada
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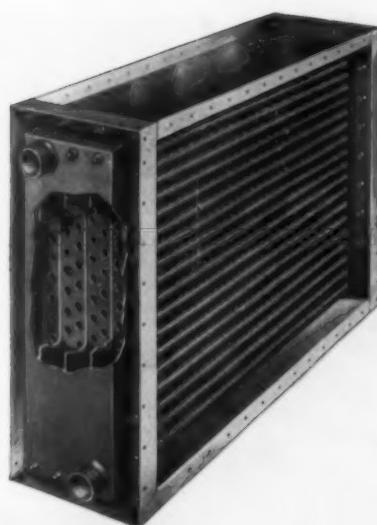
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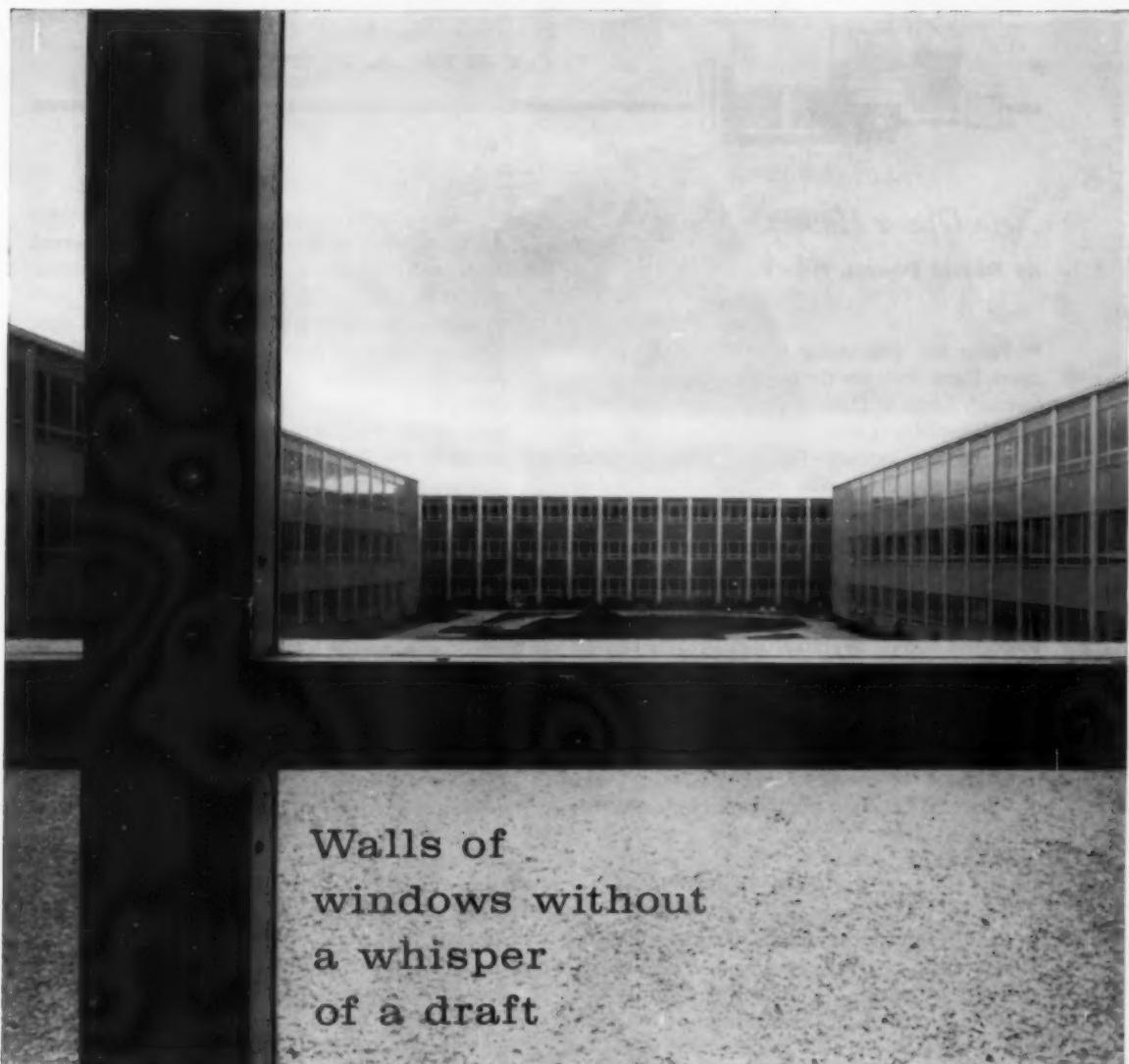
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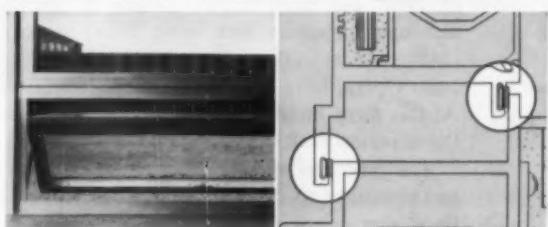
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ALLIED ARTS

New Opera Houses

By Edward Downes, *New York Times*

► From the enchanting little Louis XVI style opera house built for the summer residence of the Swedish Kings at Drottningholm, to the luxurious new Festspielhaus nearing completion at Salzburg, is a startling journey. For the group of young American architects, who made the trip last June with the specific purpose of concentrating on contemporary opera-house construction, it was breathtaking.

The traveling architects include four who were granted Ford Foundation fellowships through their respective schools at Harvard, Princeton, Yale and the Massachusetts Institute of Technology. They constitute the architectural sections of the Bayreuth Festival Master Class, in its second summer under the direction of Friedelind Wagner, granddaughter of the composer.

What are the chief impressions from this concentrated introduction to a summer's study of contemporary operatic architecture? A musician, of course, cannot speak for a group of professional architects. But, to this traveler the primary, overwhelming impression was the sheer intensity and volume of the German activity.

The travelers saw opera houses in every stage of progress: paper projects still under consideration by civic authorities, models large and small, half finished constructions like the small opera-theatre scheduled to open in Stuttgart in the spring of 1962, and many houses already in operation, although they may lack some heavy stage machinery, or, as in the artists' quarters of the Mannheim Opera, have walls that are still unplastered. At this dizzy building pace, each city learns from the experience of its neighbors.

The problems and their manifold solutions are too numerous to count in a brief report. But one basic aim seems to be for greater flexibility of both stage and auditorium.

The oldest of the contemporary houses visited was the Frankfurt Opera, completed in 1951, with a revolving stage that is the largest in the world, 124 feet in diameter. For greater flexibility, this large turntable has built into it a smaller turntable

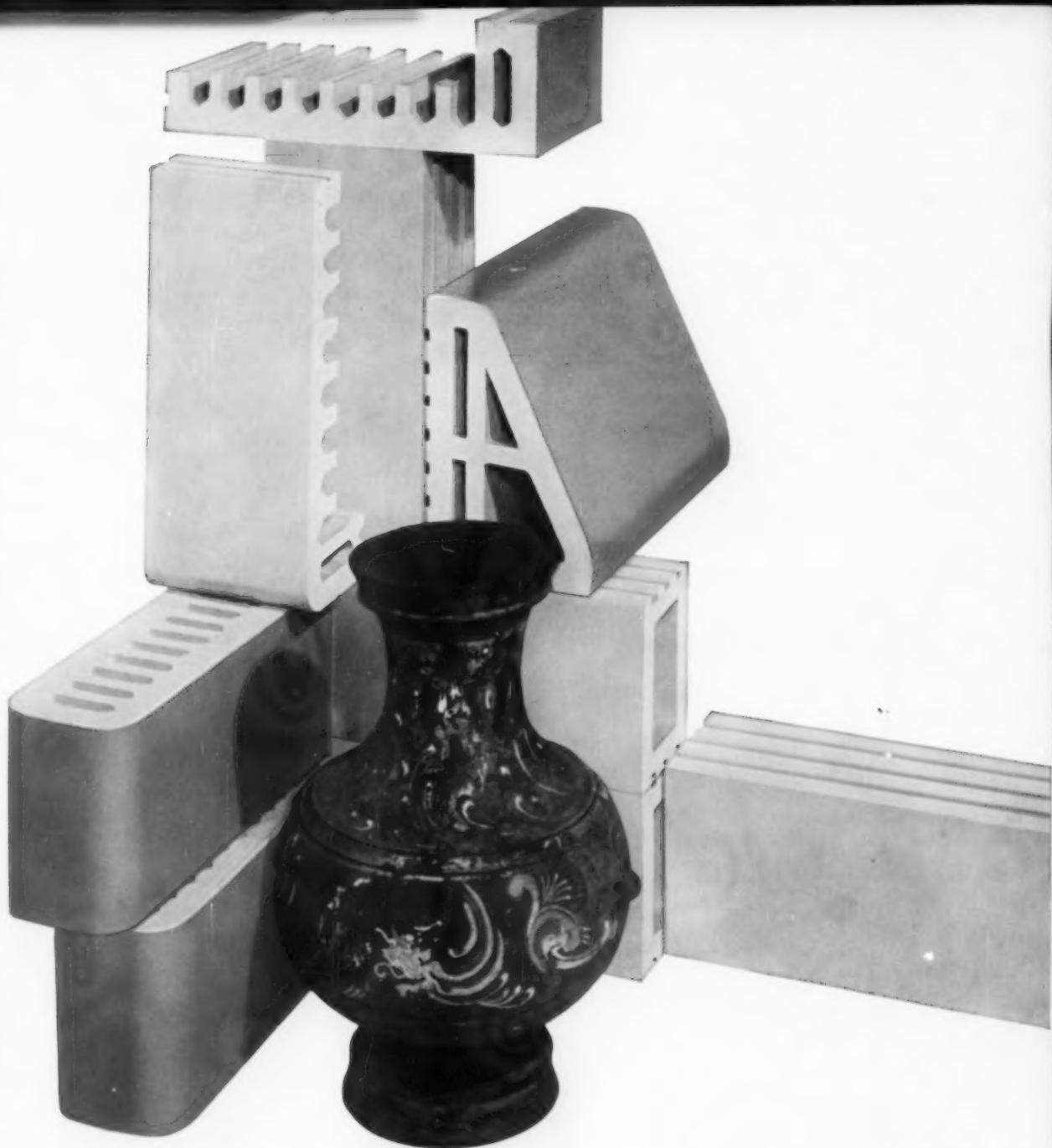
of a mere fifty-feet in diameter and four large oblong sections of floor to be raised or lowered by powerful elevators. In a scenic extravaganza, such as the local production of "Fledermaus," both turntables may revolve simultaneously in full sight of the audience. In many circles, this is considered quite old-fashioned.

Another important step toward further flexibility of the stage was taken at the new Bochum Opera in the Ruhr by placing the iron curtain in front of the orchestra pit. Not only can the stage be arched forward over the orchestra pit as far as desired but now scenery also can be placed equally far forward and still be kept behind the line of the iron curtain, as prescribed by fire laws. The object of this development is the important one of establishing more intimate contact between stage and auditorium.

Parallel to this has run the development of the movable proscenium arch, complete with its lighting bridge and towers, so that, in effect, the whole boundary between stage and auditorium has become fluid. This can be seen in several opera houses, but most strikingly, perhaps, at the Gelsenkirchen Opera, designed by Werner Ruhnau and opened last February. Herr Ruhnau has sought and, for this observer, has achieved a feeling of unity between the auditorium and stage, which the great baroque theatre architects of the seventeenth and eighteenth centuries achieved by vastly different means.

The walls, ceiling and movable proscenium of Herr Ruhnau's auditorium are a soft, velvety black, which means that with moderate lighting, they are almost invisible. Two balconies, faced with a glinting grayish aluminum foil, seem to float comfortably in the air. When the stage lights go up in the darkened auditorium, the stage picture seems to materialize out of nowhere, like a dream, and yet to be in the same room with the audience.

The foyers and external appearance of the Gelsenkirchen Opera are festive and glamorous as one could wish. The entire façade is faced with glass, with gleaming reflections of sky and clouds during the day. But the building really comes alive at night. The glass façade appears to dissolve and the brilliantly lighted foyers seem a part of the large square in which the building is set. □



*From the John Gellatly Collection in the National
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